

# **Testing an Alternative Measure of Progress: The Case of the Bakgatla-ba- Kgafela Nation**

by  
Gillian Kay Hamilton

*Thesis presented in fulfilment of the requirements for the degree Master  
of Philosophy in Sustainable Development Planning and Management in  
the Faculty of Economic and Management Sciences at the University of  
Stellenbosch*



Supervisor: Dr P Human

March 2012

By submitting this thesis/dissertation electronically, I declare that the entirety of the work contained therein is my own, original work, that I am the sole author thereof (save to the extent explicitly otherwise stated), that reproduction and publication thereof by Stellenbosch University will not infringe any third party rights and that I have not previously in its entirety or in part submitted it for obtaining any qualification.

March 2012

Copyright © 2016 University of Stellenbosch

All rights reserved

## ABSTRACT

An alternative measure of progress to GDP was evaluated in the Bakgatla-Ba-Kgafela tribe (in total N = 119) using subjective wellbeing or happiness. The major dimensions of happiness were assumed to be physical, mental, social, spiritual, educational, environmental, occupational, and financial wellbeing or income and governance. Amongst the Bakgatla, correlation testing identified two clusters or core sub-sets of relationships, based on the strength of relationships, which appear to work in parallel to one another, with divergent outcomes of either increased happiness or income. The first cluster is related to traditional economic rationality and consists of Education Level, Income and Employment Security. The second cluster, more closely related to principles of sustainable development, consists of Social Wellbeing, Environmental Wellbeing and Happiness. An insignificant correlation between Income and Happiness exists.

A multiple regression analysis was conducted with Happiness as the dependent variable and the major wellbeing dimensions as the independent variables ( $R^2 = .286$ ). Statistically significant Standardized Beta's calculated in the regression analysis are Social wellbeing (0.464), Educational level (-0.226), Governance (0.205) and Physical wellbeing (0.194). Although a cause-and-effect relationship can't be assumed, the supposition is that *ceteris paribus*:

- Happy people tend to have higher levels of social wellbeing or social capital;
- The more educated people are, the less happy they are;
- The more trust people have in public institutions and the state, the happier they are;
- and
- Happy people tend to be healthier.

Therefore, holding all other explanatory variables constant, it can be assumed that income has no bearing on subjective wellbeing. Therefore we reject the Null Hypothesis that the Bakgatla's progress is purely determined by their annual per capita income.

The relationship between income and subjective wellbeing for the Bakgatla follows global patterns - an initial increase in happiness as income increases is pronounced but 'flattens' somewhat as a higher level of income is reached and diminishes as very high levels of income are achieved. The critical turning point where income has a diminishing rate of return on satisfaction is around R20 000 per annum per person. This corroborates the human needs theories which proposes that a hierarchy of needs for human beings exist and until the basic needs are met, higher needs cannot be met.

The present findings have implications for the Bakgatla: in order to increase happiness and promote development, the Bakgatla should focus on four key aspects: meeting basic needs; increasing social capital; increasing trust in the Tribal Authorities; and improving physical health. In addition, education and environmental wellbeing should also be focal points but changes need to be made to the education curriculum so that there is a strong focus on sustainable development. An important policy implication that the Bakgatla need to consider, is balancing the needs of the current generation with the needs of future generations. Economic growth or income may bring a certain amount of happiness; environmental destruction, crime and human health implications may outweigh these benefits and happiness in both the current and future generations.

Additional future research is recommended.

## **OPSOMMING**

In hierdie studie is subjektiewe welstand of geluk as alternatief vir bruto binnelandse produk (BBP) as vooruitgangsmaatstaf by die Bakgatla-Ba-Kgafela-stam (altesaam  $N = 119$ ) ondersoek. Die veronderstelde hoofaspekte van geluk wat in die studie getoets is, is fisiese welstand, geesteswelstand, maatskaplike welstand, spirituele welstand, opvoedkundige welstand, omgewingswelstand, beroepswelstand, finansiële welstand of inkomste, en bestuur. Korrelasietoetse onder die Bakgatla het twee beduidende groepe of kernsubstelle verwantskappe uitgewys, welke groepe oënskynlik gelyklopend funksioneer, met uiteenlopende dog nieverwante uitkomst van hetsy verhoogde geluk of verhoogde inkomste. Die eerste groep hou verband met tradisionele ekonomiese rasionaliteit, en bestaan uit onderrigvlak, inkomste en werksekerheid. Die tweede groep, wat eerder met beginsels van volhoubare ontwikkeling saamhang, bestaan uit maatskaplike welstand, omgewingswelstand en geluk. Die studie toon 'n onbeduidende verband tussen inkomste en geluk.

'n Meervoudige regressieontleding is met geluk as afhanklike veranderlike en die hoofwelstandsaspekte as onafhanklike veranderlikes uitgevoer ( $R^2 = 0,286$ ). Statisties beduidende gestandaardiseerde betakoëffisiënte wat in die regressieontleding bereken is, is maatskaplike welstand (0,464), opvoedingsvlak (-0,226), bestuur (0,205) en fisiese welstand (0,194). Hoewel 'n oorsaak-en-gevolg-verwantskap nie aanvaar kan word nie, word daar vermoed dat, met alle ander faktore gelyk:

- gelukkige mense geneig is om hoër vlakke van maatskaplike welstand of maatskaplike kapitaal te geniet;



- hoe meer opgevoed mense is, hoe ongelukkiger is hulle;
- hoe meer vertrouwe mense in openbare instellings en die staat het, hoe gelukkiger is hulle; en
- gelukkige mense geneig is om gesonder te wees.

Indien alle ander verklarende veranderlikes konstant gehou word, word daar dus aanvaar dat inkomste geen verband met subjektiewe welstand toon nie. Daarom word die nulhipotese dat die Bakgatla se vooruitgang alleenlik deur hul jaarlikse inkomste per capita bepaal word, verwerp.

Die verwantskap tussen inkomste en subjektiewe welstand vir die Bakgatla volg internasionale patrone: Aanvanklik neem geluk duidelik toe namate inkomste verhoog, plat dan effens af namate 'n hoër inkomstevlak bereik word, en verminder aansienlik wanneer baie hoë inkomstevlakke bereik word. Die kritiese draaipunt waar inkomste 'n verlaagde opbrengskoers op tevredenheid toon, is sowat R20 000 per jaar per persoon. Dít staaf die menslikebehoefte-teorie wat aan die hand doen dat mense oor 'n hiërargie van behoeftes beskik en dat daar eers in basiese behoeftes voorsien moet word voordat behoeftes hoër op in die hiërargie aan die beurt kan kom.

Hierdie bevindinge het bepaalde implikasies vir die Bakgatla: Ten einde geluk te verhoog en ontwikkeling aan te moedig, behoort die Bakgatla op vier kernaspekte te konsentreer, naamlik voorsiening in basiese behoeftes, die vermeerdering van maatskaplike kapitaal, die verhoging van vertrouwe in die stamowerhede, en verbetering van liggaamlike gesondheid. Voorts behoort opvoedkundige en omgewingswelstand ook fokuspunte te wees, maar moet die onderrigkurrikulum aangepas word om sterker klem op volhoubare ontwikkeling te plaas. 'n Belangrike beleidsimplikasie wat die Bakgatla moet oorweeg, is om 'n ewewig te vind tussen die behoeftes van die huidige geslag en die behoeftes van toekomstige geslagte. Ekonomiese groei of inkomste kan inderdaad 'n sekere hoeveelheid geluk skep. Tog kan omgewingsvernietiging, misdaad en swak menslike gesondheid hierdie voordele en geluk in sowel die huidige as toekomstige geslagte oorskadu.

Bykomende navorsing word vir die toekoms aanbeveel.

## **ACKNOWLEDGEMENTS**

It would have been impossible for me to write this paper, without the contributions of the following people:

Piet Human, my supervisor, who has assisted with the statistical analysis, and helped clarify ideas and thoughts for this thesis. He has also provided me with motivation and support during the writing of this thesis – especially after sleepless nights and Joseph's teething.

Daniel Kaplan, my husband, who has been understanding and encouraging while I spent so much time on my studies that could have otherwise been spent with him. He has provided the essentials such as food, money and support so that this thesis was made possible and all photographs were taken by him on 22 October, 2011.

Joseph Kaplan, our future generation, for teaching me patience and encouraging me to imagine a different world.

Daphne Hamilton, my mother, for her editing, advice, encouragement and support. And to my whole family for providing accommodation and other essentials, especially during the fieldwork phase.

To my friends, especially Andrea Ferry and Sue Robinson, for assistance, insights, suggestions and support.

To everyone at the Sustainability Institute for both the administration assistance and the academic teaching that helped shape my work. Special thanks to Prof. Alan Brent, for checking up on me and helping me from afar and to Prof. Mark Swilling who fostered work that led directly to this paper.

The Bakgatla-Ba-Kgafela, especially Mr. Lebogang Mateboge, for assisting and welcoming me and providing excellent support especially while I was very pregnant and allowing me to conduct my research on them.

Gillian Hamilton  
March, 2012

.

## **GLOSSARY AND ABBREVIATIONS**

ANC: African National Congress

Bakgatla: Bakgatla-Ba-Kgafela

Bojanala or BPDM: Bojanala Platinum District Municipality

BTA: Bakgatla Tribal Authority

GDP: Gross Domestic Product

GGP: Gross Geographical Product

GNH: Gross National Happiness Index

IDP: Integrated Development Plan

Kgosi: Chief or tribal leader

Kgosikgolo: Paramount Chief

MKLM: Moses Kotane Local Municipality

NCD: Noncommunicable diseases

North West or NW: North West Province of South Africa

PGM: Platinum Group Metals

SA: Republic of South Africa

SWB: Subjective Wellbeing or happiness

## TABLE OF CONTENTS

GLOSSARY AND ABBREVIATIONS.....	7
1. INTRODUCTION.....	14
2. LITERATURE SURVEY AND THEORY: REDEFINING HUMAN PROGRESS AND MEASURING WHAT COUNTS .....	17
2.1. Introduction.....	17
2.2. Measuring Human Progress.....	17
2.3. The Myth of Economic Growth as Progress .....	20
2.4. Redefining Progress or Alternative Measures of Progress.....	22
2.4.1. Economic Indicators.....	23
2.4.2. Environmental and Natural Resource Indicators.....	24
2.4.3. Objective Quality of Life Indicators .....	25
2.4.4. Sustainable Development Models and Indicators .....	25
2.4.5. Wellbeing Models and Indicators.....	27
2.5. Gaps Identified in the Literature.....	30
2.6. Wellbeing as a Policy.....	32
2.7. Conclusion.....	33
3. RESEARCH PROCESS.....	35
3.1. Introduction.....	35
3.2. Theories and Models to be used.....	36
3.3. The Research Question .....	37
3.4. Research design and methodology .....	38
3.4.1. The Research Instrument.....	38
3.4.2. Sampling .....	38
3.4.3. Research Procedures .....	39
3.4.4. Data analysis.....	40
3.5. Conclusion.....	41
4. FINDINGS AND RESULTS .....	42
4.1. Introduction.....	42
4.2. Demographics.....	43
4.3. Financial Wellbeing.....	46
4.4. Educational Wellbeing .....	56
4.5. Occupational wellbeing .....	59
4.6. Social Wellbeing .....	64
4.7. Mental Wellbeing.....	74
4.8. Spiritual Wellbeing .....	80
4.9. Physical Wellbeing .....	84
4.10. Environmental Wellbeing .....	90
4.11. Crime and Governance .....	103
4.12. Subjective Wellbeing or Happiness.....	115
5. CORRELATIONS BETWEEN WELLBEING COMPOSITE VARIABLES AND THE SUBJECTIVE WELLBEING COMPOSITE VARIABLE .....	129
6. HYPOTHESIS TESTING .....	133

6.1. Multiple Regression Analysis with All Wellbeing Composite Variables .....	133
6.2. Multiple Regression Analysis with Significant Variables .....	135
6.3. Further exploration of the relationship between SWB and Income .....	136
6.4. Policy Implications.....	139
6.5. Limitations of the research.....	141
7. CONCLUSIONS AND RECOMMENDATIONS .....	143
REFERENCE LIST .....	145
ADDENDA .....	152
ADDENDUM A: THE BAKGATLA-BA-KGAFELA.....	152
Introduction.....	152
Background to the Bakgatla-ba-Kgafela.....	152
History of the Bakgatla .....	153
Governance.....	154
Fraud and Corruption? .....	156
Bakgatla Development .....	156
Economic Development .....	157
Community and Social Development.....	159
Conclusion.....	159
ADDENDUM B: PHOTO STUDY OF LEROME.....	160
ADDENDUM C: MINING BENEFITS AND COMPENSATION .....	175
ADDENDUM D: SURVEY TOOL: SOUTH AFRICAN HAPPINESS INDEX.....	176

## LIST OF FIGURES

Figure 1: Research Plan .....	16
Figure 1: Life Satisfaction and GDP per Capita (Source: nef, 2007) .....	21
Figure 2: Interconnection of personal, social, economic and environmental wellbeing (New Economics Foundation,2004, p.20).....	36
Figure 3: Annual Average Income .....	55
Figure 4: Social Wellbeing composite variable.....	74
Figure 5: Mental Wellbeing Composite Variable.....	79
Figure 6: Histogram of Spiritual Wellbeing Composite Variable.....	83
Figure 7: Histogram of Environmental Wellbeing Composite Variable .....	102
Figure 8: Histogram of Governance Composite Variable .....	114
Figure 9:Histogram of self-rated happiness .....	118
Figure 10: Histogram of Self-rated Quality of Life .....	119
Figure 11: Histogram of Self-reported Enjoyment of Life.....	120
Figure 12: Histogram of life satisfaction.....	122
Figure 13: Graph of the GAP between values.....	124
Figure 14: Mapping Correlations .....	132
Figure 15: The Bakgatla Relationship between SWB and Income.....	137
Figure 17: Bakgatla Relationship between Satisfaction and Income .....	138
Figure 18: Map of Bojanala Platinum District Municipality.....	160
Figure 19: Map of Pilanesberg and surrounding areas .....	160
Figure 20: The road to Lerome .....	161

Figure 21: Moruleng and the Bakgatla Administration .....	162
Figure 22: Lerome infrastructure .....	163
Figure 23: Examples of education facilities in Lerome .....	164
Figure 24: Fitness facilities in Lerome .....	165
Figure 25: Health facilities serving Lerome .....	165
Figure 26: Religious institutions .....	166
Figure 27: Income and living standards disparity .....	167
Figure 28: Environmental degradation in Bakgatla tribal lands .....	168
Figure 29: Lerome residents .....	169
Figure 30: Occupational wellbeing and what people do all day .....	170
Figure 31: Residents socialising .....	171
Figure 32: Headman's inauguration in community hall .....	172
Figure 33: Headmen and elders in traditional outfits .....	173
Figure 34: Traditional dance troupes .....	173
Figure 35: Preparing food for community event .....	174

## LIST OF TABLES

Table 1: Wellbeing theories and associated terminology .....	30
Table 2: Sample Household Members by Sex .....	43
Table 3: Demographic profile of Moses Kotane Local Municipality .....	43
Table 4: Study Participants by Age Category .....	44
Table 5: Sample Household Members by Age Category .....	44
Table 6: Sample Household Size .....	46
Table 7: Statistics of Grant Recipients in Moses Kotane Local Municipality .....	48
Table 8: Sources of Income .....	49
Table 9: Income in Comparison to Other Families in Community .....	49
Table 10: Financial Position Changes in Comparison to Other Families .....	50
Table 11: Self-predicted Future Financial Situations .....	50
Table 12: Total Household Income Meeting Family's Needs .....	51
Table 13: Unexpected payment to be made .....	51
Table 14: Alternative Indicators of Financial Position .....	52
Table 15: Level of Comfort with Household Debt .....	52
Table 16: Ownership Status of Home .....	53
Table 17: Assets .....	54
Table 18: Income Received by Class .....	55
Table 19: Educational facilities within BPD .....	57
Table 20: Educational Levels .....	58
Table 21: Non-formal Education .....	58
Table 22: Literacy and Languages .....	58
Table 23: Languages Spoken .....	59
Table 24: Unemployment and affordability figures for Moses Kotane Local Municipality .....	60
Table 25: Employment Status .....	61
Table 26: How respondents spend their time .....	62
Table 27: Emotions during previous day .....	62

Table 28: Companions during previous day .....	63
Table 29: Occupational Wellbeing Composite Variable .....	64
Table 30: Events Participation .....	66
Table 31: Number of days at events .....	66
Table 32: Importance of event participation.....	66
Table 33: Unpaid Voluntary Assistance.....	68
Table 34: Kinds of Voluntary Assistance.....	68
Table 35: Fair Treatment within Community .....	69
Table 36: Levels of Trust.....	69
Table 37: Assistance to Neighbours.....	70
Table 38: Labour Exchange during past 12 months.....	70
Table 39: Socialising and Social Networks .....	71
Table 40: Family Dynamics and Interaction.....	71
Table 41: Importance of maintaining traditions within everyday life.....	73
Table 42: Knowledge of traditions .....	73
Table 43: Table Provincial lifetime prevalence estimates (%) of mental health disorders by province .....	75
Table 44: Emotions .....	76
Table 45: Stress .....	77
Table 46: Mental Health, Stress and Personal Outlook .....	78
Table 47: Average Mental Wellbeing Composite Variable and Sex.....	80
Table 48: Religious Affiliation .....	81
Table 49: Spirituality .....	81
Table 50: Frequency of Praying.....	82
Table 51: Frequency of Attendance at Places of Spiritual Significance .....	82
Table 52: Frequency of Discussion of Spiritual Issues with Children .....	82
Table 53: Spiritual Wellbeing Composite and Gender .....	83
Table 54: Correlation between Spiritual Wellbeing and Age.....	83
Table 55: Health facilities in Moses Kotane Local Municipality and BPDM.....	84
Table 56: BMI and Weight Status.....	86
Table 57: Physical Activity .....	86
Table 58: Nutrition and diets.....	87
Table 59: Food Security and Skipping Meals .....	88
Table 60: Frequency of Skipping Meals .....	88
Table 61: Substance Use during the past 12 months.....	88
Table 62: Smoking inside Households.....	88
Table 63: Composite Physical Wellbeing .....	89
Table 64: Composite Physical Wellbeing .....	89
Table 65: Correlation between Physical Wellbeing Composite Variable and Age.....	90
Table 66: Physical Wellbeing and Age .....	90
Table 67: Number of un-serviced Households for MKLM.....	91
Table 68: Number of un-serviced Households in Moses Kotane Local Municipality .....	92
Table 69: Distribution of households by type of refuse disposal per Moses Kotane local municipality.....	92
Table 70: Has Household Waste Production Increased? .....	93

Table 71: Sorting Household Waste .....	93
Table 72: Disposal of Household Waste .....	93
Table 73: Knowledge of Climate Change.....	95
Table 74: How Serious is Climate Change .....	96
Table 75: Concern about Climate Change.....	96
Table 76: Knowledge of Local Plants and Animals.....	98
Table 77: Support for Government Environment and Conservation Policies .....	98
Table 78: Environmental Concerns .....	99
Table 79: Extent of Government Protection for Future Generations.....	100
Table 80: Environmental Regulation .....	100
Table 81: Quality of Drinking Water .....	100
Table 82: Air Quality .....	101
Table 83: Diseases Related to Poor Air Quality .....	101
Table 84: Change in Surface Water .....	101
Table 85: Connection to Nature .....	102
Table 86: Gender and Environmental Wellbeing .....	103
Table 87: Crime Statistics for Mogwase Police Station April/ March 2003 to April/ March 2010.....	104
Table 88: Victim of Crime.....	105
Table 89: Nature of offenses .....	106
Table 90: Know other victims of crime .....	106
Table 91: Nature of offences .....	106
Table 92: Safety walking in village after dark .....	107
Table 93: Enmity in Community during the previous 12 months .....	107
Table 94: Level of Trust in Institutions .....	108
Table 95: Headman Implementation of Village Decisions .....	109
Table 96: Informed of Village Decisions .....	109
Table 97: Informed of Decisions by BTA.....	109
Table 98: How common is corruption in SA?.....	110
Table 99: Corruption in South Africa .....	111
Table 100: South Africans and Bakgatla involved in corruption .....	112
Table 101: Reasons for corruption amongst Bakgatla .....	113
Table 102: Reasons for corruption amongst South Africans.....	113
Table 103: Governance composite variable and gender .....	114
Table 104: Correlation between governance composite variable and age .....	114
Table 105: Governance variables disaggregated .....	115
Table 106: Components crucial for a happy and contented life.....	116
Table 107: Self-rated happiness scale.....	117
Table 108: Self-rated Quality of Life.....	118
Table 109: Enjoyment of Life.....	119
Table 110: Satisfactions with Aspects of Life .....	121
Table 111: Correlation between life satisfaction and age .....	122
Table 112: Composite variable life satisfaction and gender .....	122
Table 113: Importance of life principles - A comparison between self and South Africans in general .....	123



Table 114: Correlations between Subjective Wellbeing, Happiness, Quality of Life and Enjoyment of Life.....	125
Table 115: Correlation between SWB, Satisfaction and Enjoyment of Life .....	126
Table 116: Correlations between Wellbeing Variables.....	131
Table 117: Multiple Regression Analysis Summary .....	134
Table 118: Coefficients of Multiple Regression Analysis .....	134
Table 119: The Correlation between SWB, Satisfaction and Income Classes.....	139
Table 120: ANOVA between composite variables and income classes.....	139

## 1. INTRODUCTION

The people of the Bakgatla-ba-Kgafela Nation (Bakgatla) find themselves in an extraordinary position: while the members of the Bakgatla community are poor in relation to other occupants of the Bojanala District Platinum Municipality, they own extensive mineral rights and land that is richly endowed with platinum deposits. This would make the Bakgatla one of the wealthiest tribes in South Africa (Bakgatla Ba Kgafela Administration, n.d.; Gaotlhobogwe, 2010).

The Bakgatla have made a decision to leverage their wealth in order to improve the quality of life for all members of their nation and to “...create a basis for sustained economic growth” (Bakgatla Ba Kgafela, 2009). However, the literature highlights the fact that increasing economic growth is a mythical solution to improving human progress and wellbeing. Furthermore, the Easterlin paradox presents a contradiction: as societies’ wealth increases past a relatively low threshold, there is no real increase in happiness or wellbeing (Daly, 2011; Layard, 2011; Marks, 2011; New Economics Foundation, 2004).

Therefore, rather than using economic growth and income as measure of their progress or improved quality of life, the Bakgatla have a unique opportunity to reorient their policies and aims. This unique opportunity will involve promoting wellbeing as their central, ultimate goal for both the current and for future generations.

Much theoretical research has been conducted into subjective wellbeing as a measure of progress, but little empirical evidence exists to support it. This study aims to provide empirical evidence of an alternative measure of progress or subjective wellbeing (SWB) by conducting tests with a sample of the population. It is proposed that the Bakgatla’s progress can be measured more accurately by investigating subjective wellbeing, rather than annual per capita income.

This thesis is structured according to the research plan (as shown in Figure 1 below). Thus, the initial chapter begins with a review of the literature, theories and models concerning human progress and measuring what is relevant. It investigates the current measure of human progress and the problems associated with it, and examines alternative measures of progress that have been developed as a reaction to the current economic paradigm. The need to shift to a ‘post-growth, high-wellbeing society’ is identified, but the question of how to measure this alternative indicator of human progress remains. The chapter concludes with the identification of gaps in the literature

and a discussion of the possibility of human wellbeing as the central policy of governments.

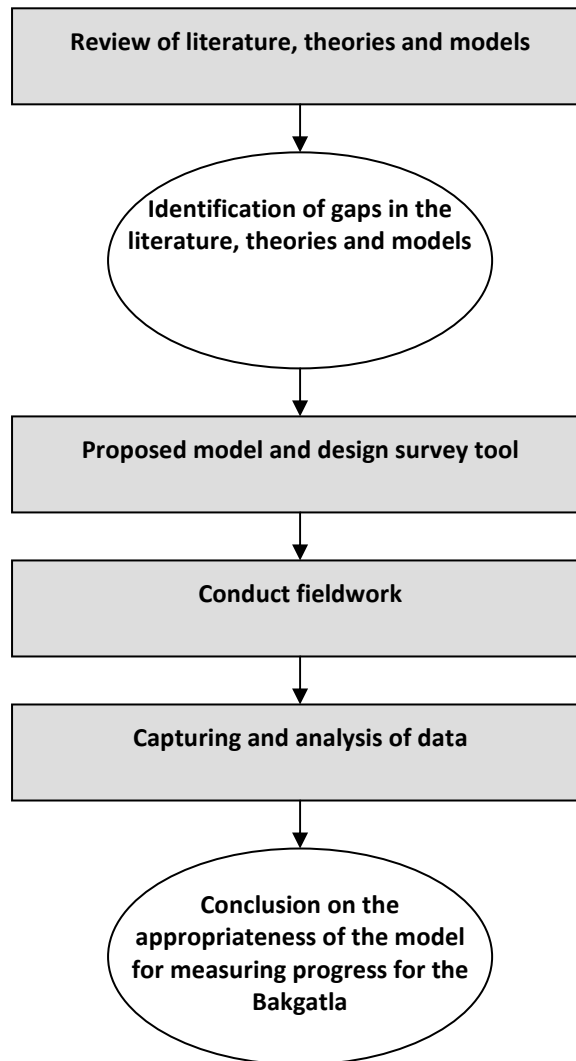
The second chapter presents a detailed description of the research process. This includes the development of the research question, the model and the research instrument, and the description of the process and interaction with the community to identify a sampling frame and the gathering of data. Furthermore, the chapter offers a brief description of some of the obstacles faced during the research process and concludes with a description of how the data were analysed.

The research findings and information gathered from both additional desk-top research (to substantiate the research) and the survey tool form a substantial part of the thesis. The documentation of the findings starts with the demographics, with the intention of providing the reader with a better understanding of the sample and the population. This is followed by a discussion of the nine dimensions of wellbeing, namely financial, educational, occupational, social, mental, spiritual, physical and environmental wellbeing, and crime and governance. A section dealing with subjective wellbeing and happiness presents an exploration of the sample population's self-reported happiness and satisfaction and a composite variable of subjective wellbeing derived from this.

An additional multiple regression analysis to test the relationships between the subjective wellbeing composite variable and the nine dimensions of wellbeing that has identified very interesting relationships amongst these elements is discussed. This is followed by hypothesis testing to test the research question. A fascinating exploration of the relationship between subjective wellbeing and income echoes international findings and results. The thesis is concluded with recommendations for the Bakgatla-ba-Kgafela nation.

The addenda contain additional background information on the Bakgatla-ba-Kgafela and a photo study of the village where the sampling was conducted to give the reader a feel of the place. The survey instrument is included in the addenda.

**Figure 1: Research Plan**



## **2. LITERATURE SURVEY AND THEORY: REDEFINING HUMAN PROGRESS AND MEASURING WHAT COUNTS**

### **2.1. Introduction**

For decades, economic growth has been seen as both the means to, and the equivalent of, human progress. Human progress in turn, is generally regarded as an improvement in society's wellbeing or people's happiness<sup>1</sup> (Shiva, 2011). The belief that long-term economic growth brings improved wellbeing for all individuals within a country has resulted in growth being the foremost aim of government policy (Dawson, 2011; Shiva, 2011). However, the myth of economic growth as progress has resulted in the pursuit and justification of policies that maximise GDP with subsequent problems (Braun, 2009). In fact, as Shiva (2011) argues, wellbeing and real prosperity are undermined and repeatedly justified by a focus on 'growth' and 'progress'.

Shiva (2011) is not alone in arguing that increasing economic growth is a mythical solution to improving human progress and wellbeing. A paradox exists: as societies' wealth has increased, there is no real increase in happiness past a certain, rather modest, income (Daly, 2011; Layard, 2011; Marks, 2011; New Economics Foundation, 2004). Alternatively expressed, material wealth has not resulted in a happier society as might have been expected (Layard, 2011). This has been shown in studies of self-evaluated happiness which show that beyond a certain threshold annual income, a further growth in income does not increase happiness (Layard, 2011). An obsession with growth may have led us to ignore aspects of life that are important to human wellbeing (New Economics Foundation, 2009).

It seems, therefore, that there is a need for new way of determining human progress – one that takes the wellbeing of people into account. This literature review looks at a variety of measures or indicators of human progress and provides a brief analysis to find a means to measure what matters.

### **2.2. Measuring Human Progress**

Gross domestic product (GDP), as the economic indicator of economic growth, has come to be seen as the sole measure of progress within nations (Braun, 2009; Cohn, 2006; Fourie,

---

<sup>1</sup> Happiness can be defined as being "satisfied with one's circumstances". It is longer-lasting and more generalised than short-term and localised pleasure. Wellbeing is seen as broader than happiness in that it encompasses people's resilience and their ability to function well (Marks, 2011). Marks (2011) notes that many people associate the word 'happiness' with frivolous matters and therefore when working in the context of areas such as government policy, the term wellbeing or subjective wellbeing (SWB) is preferred.

1999; Rampell, 2008). GDP is, simply put, everything made within an economy in a year. An expanded definition describes GDP as a measure of a country's output or total value of all final goods and services produced within a country in a given period (usually one year) (Mohr & Fourie, 2000; GPIAtlantic, 2007; Rampell, 2008). GDP was initially developed in the 1930s as a way to assist governments in managing their economies at a time when reliable data was scarce.

GDP is a powerful indicator as it influences decision-makers, private entities and individuals, and is used to determine economic policies in most countries across the world (The Centre for Bhutan Studies, 2008). However, the use of GDP as an indicator has long been criticised as an inadequate measure of economic growth and wellbeing (Braun, 2009; Rampell, 2008; Cohn, 2006; Fourie, 1999; European Association for Evolutionary Political Economy, Unknown). In fact, almost as soon as the system of national accounts was introduced in late 1940s, reaction against the use of GNP/ GDP as a measure of overall societal progress began (Hodge, 1997). Furthermore, Simon Kuznets, one of the main designers of GDP warned the US Congress in 1934 that "The welfare of a nation can scarcely be inferred from a measurement of national income... Goals for "more" growth should specify of what and for what." (GPI Atlantic, 2007). Former World Bank chief economist Joseph Stiglitz stated that GDP "...has failed to capture what makes a difference in people's lives and contributes to their happiness, such as security, leisure, income distribution and a clean environment".

Several problems with the use of GDP have been identified. The first is that GDP does not account for negative externalities, such as pollution, social upheaval and the depletion of natural, exhaustible resources (The Centre for Bhutan Studies, 2008; GPIAtlantic, 2007; Cohn, 2006). Counter-intuitively, the more natural resources are used, the faster the economy grows and therefore the use of natural, exhaustible resources are counted as economic gain (The Centre for Bhutan Studies, 2008; GPIAtlantic, 2007; Cohn, 2006). Similarly, GDP does not distinguish between good and bad expenditure like fighting crime, smoking, and medication of non-communicable diseases (GPIAtlantic, 2007).

Moreover, GDP does not include transactions such as unpaid household labour, volunteerism or leisure time that are not easily measurable or have a quantifiable market value (Rampell, 2008; GPIAtlantic, 2007; The Centre for Bhutan Studies, 2008; European Association for Evolutionary Political Economy, Unknown; Cohn, 2006).

GDP has been criticised for neglecting the implications of competitive consumption or positional competition (Cohn, 2006). Described as "keep up with the Joneses", these goods

are purchased for social status (Cohn, 2006). Cohn (2006) notes that the increase in positional competition probably drives consumption spending and contributes to a decrease in leisure (as people need to work harder) as well as a decrease in savings rates (Cohn, 2006).

As an average indicator, GDP per capita does not measure equitable income distribution, nor does it illustrate the standard of living for most people in a country (Rampell, 2008; Cohn, 2006). Due to the fact that GDP is a weighted sum of goods and services where the weights are prices that tend to vary amongst countries, it is inadequate as a comparable indicator among countries, or amongst people in countries (Braun, 2009; European Association for Evolutionary Political Economy, Unknown).

GDP does not take into account the impact of multi- or transnational corporations that produce goods in one country, especially in developing countries, but whose profits are realised in other countries (Braun, 2009). This difference is reflected in the gap between Gross National Product (which reflects citizens' income and may show a small or no increase) and GDP (reflecting country output which may show a large increase) (Braun, 2009).

Cohn (2006) notes that GDP fails to take the changes in the quality of worklife into account such as on-the-job autonomy and job security that has fallen, impacting negatively on worklife or an increase in health and safety measures, impacting positively on worklife. Finally, meta-externalities are not given attention in the calculation of GDP (Cohn, 2006). These meta-externalities refer to the impact of economic activities on various social and cultural goals, for example, the maintenance of democracy and personal freedom. The consequence is a decline in social capital and a subsequent decrease in culture, economic and social wellbeing due to the decrease in social capital services (Cohn, 2006; New Economics Foundation, 2009).

In sum, GDP does not reflect the wellbeing or happiness of citizens in countries (Rampell, 2008). However, neoclassical economists defend the use of GDP as the main instrument for measuring economic wellbeing on grounds that the statistic gets the basic story right. They claim that it reflects the belief that the invisible hand works and that market-priced economic growth is the foundation for economic wellbeing (Cohn, 2006).

### 2.3. The Myth of Economic Growth as Progress

*“Every society clings to a myth by which it lives. Ours is the myth of economic growth.”*  
(Jackson, 2004 as cited in New Economics Foundation, 2009).

Economic growth has been equated with an increase in human progress with the supposition that levels of wellbeing or happiness are increased as economic growth increases. However, both economists and psychologists are questioning what makes people happy or increases their wellbeing (Holden, 2011). The Positive Psychology movement believes that the correlation between a lot of money and increased happiness is vague (Holden, 2011).

Economists have been puzzled by one of the most perplexing findings in economics: Although a relative increase in one's income yields additional individual happiness, for rich countries, an increase in aggregate economic growth may not translate directly to an increase in happiness for all of a country's citizens (also known as the Easterlin paradox) (Daly, 2011). For example, on average, despite large increases in real GDP per capita, subjective wellbeing (SWB) has not changed significantly in the United States and Europe since the end of World War II (Powdthavee, 2009). Global patterns tend to find that the relationship between SWB and income reflects as a 'power curve' relationship rather than a linear relationship e.g. Happy Planet Index. In other words, the initial increase in happiness as income increases is pronounced but 'flattens' somewhat as a higher level of income is reached and even diminishes as very high levels of income are achieved (Easterlin, 1974; New Economics Foundation, 2009; Daly, 2011). Many surveys tend to conclude that the relationship between SWB and money is slight or non-existent (Powdthavee, 2009; Easterlin, 1974).

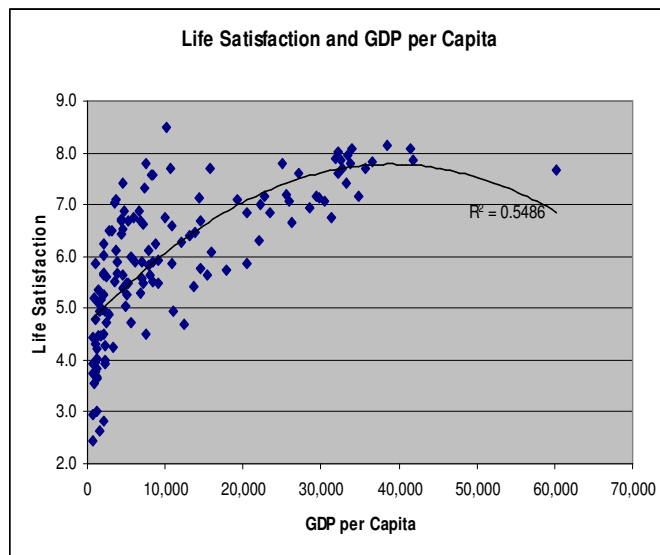
Psychologists attribute the reasons for the slight or non-existent relationship between SWB and money due to people adapting to life's conditions and that people have a "set-point of happiness" which they return to after both positive and negative life events. Another explanation is that the satisfaction (or utility) an individual derives from a given income level depends on their relative income rather than absolute income i.e. in comparison to others around them (Crook, 2011; Easterlin, 1974). This is known as the relative income hypothesis and was developed by James Duesenberry (Crook, 2011; Easterlin, 1974). Karl Marx's analogy cited in Easterlin (1974) explains this simply as "A house may be large or small; as long as the surrounding houses are equally small it satisfies all social demands for a dwelling. But if a palace rises beside the house, the little house shrinks into a hut." Similarly, Tim Kassler believes that an increase in economic growth results in higher rates of



consumption but expands citizen's aspirations at about the same rate, and thus negates the expected positive impact on welfare (New Economics Foundation, 2004).

Either way, it seems that people adapt almost entirely to the acquisition of material goods but not to changes in their social relationships or health and those people who prioritise material values are likely to report lower levels of satisfaction with their lives (New Economics Foundation, 2004). Therefore, for a rich country, the obsession with growth in GDP is an error (Layard, 2011). *nef* (2004) finds that the critical turning point or point where income has a diminishing rate of return on satisfaction is around US\$10 000 GDP per Capita. Therefore, happiness, beyond the threshold of approximately US\$10 000 GDP per capita, is overwhelmingly a function of the quality of our relationships in our communities by which our identity is constituted, rather than the quantity of goods consumed.

**Figure 2: Life Satisfaction and GDP per Capita (Source: nef, 2007)**



The myth of economic growth as progress has resulted in the pursuit and justification of policies that maximise GDP and overvalue production and consumption of goods (Braun, 2009). These policies tend to be based on rapid material progress with little regard for human, social and environmental wellbeing (Braun, 2009; The Centre for Bhutan Studies, 2008; New Economics Foundation, 2009).

With regards to human wellbeing, there has been an increase in unhappiness, depression, reduced health and stress levels despite economic growth (Kumar, 2011; Shiva, 2011; Layard, 2011). Social wellbeing has been negatively impacted on by increasing levels of inequality and the inequitable distribution of wealth which impacts negatively on society (New Economics Foundation, 2009; Dawson, 2011; Sachs, 2011). With regards to environmental wellbeing, economic growth is destructive, unsustainable due to resource

constraints and places exponential stress on natural resources (Devall, 2001; Shiva, 2011; Kumar, 2011; Gosh, 2011; New Economics Foundation, 2009). Economic growth does not equate with wellbeing for either current or future generations (Dawson, 2011; Gosh, 2011; Shiva, 2011).

The disregard for human, social and environmental wellbeing, together with the global economic crisis, has led to deeper questioning of the growth paradigm and what societal progress is (Marks, 2011; Dawson, 2011; Gosh, 2011; Shiva, 2011). Suggestions tend to be for more democratic and sustainable alternatives, that take environmental wellbeing into account and a future focus on how people can be happier, expressed by Dawson as a 'post-growth, high wellbeing society' (Gosh, 2011; Dawson, 2011; Marks, 2011; Kumar, 2011). "If indeed history is about human progress, then such a shift is not just desirable, but probably inevitable." (Gosh, 2011, p. 31).

#### **2.4. Redefining Progress or Alternative Measures of Progress**

The shift to a 'post-growth, high wellbeing society' requires human progress to be redefined and alternative measures of progress to be developed (Dawson, 2011). This is because measuring what really matters will change policy decisions and trigger changes that make people's lives better (Marks, 2011). However, until GDP growth targets no longer dominate the thinking of policymakers, they will continue to distract policymakers from the more important goal of wellbeing and may even be counterproductive (Gosh, 2011; Anielski, 2011).

Over the last six decades, heterodox economists have tried to improve, add to, or displace GDP in order to redefine progress that is not measured solely through economic growth, however a universal measure has not yet been adopted (Anielski, 2011). Hodge (1997) categorised alternative models or indicators of progress into those developed in the field of economics, social indicators, quality of life, environment and natural resources, health information systems and more recently, the sustainable development field (Hodge, 1997). Cohn (2006) identifies three categorises of indicators, namely indicators based on the concept of basic needs, those that have been developed to address technical problems with GDP and lastly, those that measure national wellbeing.

However, none of these alternative models or indicators has led to a broadly accepted and improved approach to assessing and reporting on progress (Hodge, 1997). A universally adopted alternative measure of progress, similar to GDP, is important in order to measure a

country's and its people's progress and then to develop appropriate policies based on these findings. As Stiglitz et al (2009) point out, if the measurements are flawed, then policy decisions may be distorted.

What follows is an overview of these alternatives using a combination of Cohn (2006) and Hodge's (1997) categorisation – however it is important to note that some of these categories have begun overlapping with other fields and have a transdisciplinary<sup>2</sup> approach.

#### **2.4.1. Economic Indicators**

A number of indicators have been developed to address the technical problems with GDP. These include the Measure of Economic Welfare and the Index of Sustainable Economic Welfare. The Measure of Economic Welfare (MEW) and Integrated Environmental and Economic Satellite Accounts (IEESA) are both alternative indicators of economic performance (Cohn, 2006). MEW was designed by James Tobin and William Nordhouse as a revision of national accounts that considers the value of household labour and leisure, the costs of urbanisation and reclassification of some final goods into intermediate goods (such as spending on defence) (Cohn, 2006). IEESA was established to complement rather than revise GDP and it emphasises the costs of depleting natural resource stocks and environmental damage into account.

The Index of Sustainable Economic Welfare (ISEW) was designed by Herman Daly and John Cobb (Cohn, 2006). It factors in the long-term cost estimates for pollution and other unsustainable costs, includes household labour and income distribution (Rampell, 2008; Cohn, 2006). Additional "costs" were added to ISEW at a later stage and it then became the Genuine Progress Indicator (GPI) (Braun, 2009). Advocates of the GPI claim that it balances the real costs and benefits of economic activity and use the term "full-cost accounting" to describe it (GPIAtlantic, 2007). GPI combines green economics - Robert Costanza's work on calculating the value of nature's services - and welfare economics in order to determine whether a nation's wellbeing has improved due to economic growth (Braun, 2009; GPIAtlantic, 2007). Neither ISEW nor GPI take waste of competitive consumption/ positional competition or the character of worklife into account.

The field of happiness economics<sup>3</sup> is included in the category although it also overlaps with wellbeing models and indicators. Happiness economics has gained credibility and grown

---

<sup>2</sup> Transdisciplinary research integrates academic research from different unrelated disciplines and using a participatory approach in order to research a common goal and create new knowledge and theory (Tress, Tress, & Fry).

substantially since its inception in the late 20th century and research into this field has increased e.g. Organization for Economic Cooperation and Development in 2006 (Holden, 2011; Rampbell, 2008). Another initiative that has received quite a bit of attention, has been the Commission on the Measurement of Economic Performance and Social Progress (Commission), initiate by President Sarkozy, with participation from economists such as Joseph Stiglitz, Amartya Sen and Jean-Paul Fitoussi.

“For years statistics have registered an increasingly strong economic growth as a victory over shortage until it emerged that this growth was destroying more than it was creating. The crisis doesn’t only make us free to imagine other models, another future, another world. It obliges us to do so.” Nicolas Sarkozy, 2008.

The Commission agreed that the economic context has changed radically and that there is an increased urgency to identify new measures of progress (Stiglitz, Sen, & Fitoussi, 2009). The Commission’s report is divided into three focus areas namely GDP, quality of life and sustainable development. Each focus area was studied and recommendations were made (Stiglitz, Sen, & Fitoussi, 2009). Many of the recommendations confirmed the concerns previously expressed by heterodox economists. For instance, Stiglitz et al (2009) suggest that it is necessary to emphasise indicators other than GDP and that income should be measured from a household perspective rather than individual income (Stiglitz, Sen, & Fitoussi, 2009). Quality of life should be measured, using different dimensions and should include subjective wellbeing (Stiglitz, Sen, & Fitoussi, 2009). Furthermore, these indicators should assess inequalities (Stiglitz, Sen, & Fitoussi, 2009). The third aspect of the report focuses on sustainable development and the environment and the importance of including this aspect as a key measure of progress. The report considers various ways of measuring sustainable development including indicators that focus on overconsumption and dashboard indicators<sup>4</sup> (Stiglitz, Sen, & Fitoussi, 2009).

#### **2.4.2. Environmental and Natural Resource Indicators**

Due to the fact that negative externalities are not taken into account with GDP, a number of environmental and natural resource indicators have been developed e.g. like carrying capacity, ecological footprint or carbon measurement models. Hodge (1997) notes that general ecological systems models, while useful in their own right, are difficult to apply to

---

<sup>3</sup> Happiness economics is the quantitative study of happiness, wellbeing, quality of life, life satisfaction and related concepts. The field combines economics with other fields such as psychology and sociology.

<sup>4</sup> Dashboard indicators refers to a simple format to present complex relationships between economic, social and environmental issues, in order to manage and communicate these relationships more simply.

assessing the progress towards sustainability (Hodge, 1997). These models may offer insights into the nature of ecosystem relationships and the need to include a broad range of disciplines to undertake effective analytic work and are generally too narrow.

#### **2.4.3. Objective Quality of Life Indicators**

GDP does not measure quality of life and so objective quality of life indicators have been developed to measure progress. Based on the concept of basic needs both the Physical Quality of Life Index (PQLI) and the Human Development Index (HDI) are generally used to assess the economic progress of developing economies (Cohn, 2006). The PQLI measures a nation's economic success in terms of literacy rate, infant mortality rate and life expectancy at age one (Cohn, 2006). The HDI was inspired by Amartya Sen's work and developed by the United Nations Development Programme in 1990 (Cohn, 2006; European Association for Evolutionary Political Economy, Unknown). It measures economic development in terms of adult literacy, school enrolment, life expectancy at birth and per capita GDP (Cohn, 2006; European Association for Evolutionary Political Economy, Unknown).

These objective measures of quality of life do not evaluate the impact of policies on people's lives and their sense of wellbeing. Thus the New Economics Foundation (2004) highlights the importance of understanding the relationship between the measurable objective, conditions of people's lives and their subjective "wellbeing" or the way they experience life (New Economics Foundation, 2004).

#### **2.4.4. Sustainable Development Models and Indicators**

It is clear that alternative conceptualisations of human progress which result in sustainable development are required. Sustainable development (SD) is defined as combining environmental issues with socio-economic issues to "meet[ing] the needs of the present without compromising the ability of the future generation to meet their needs" (Hopwood et al, 2005). Moreover, sustainable development principles based on futurity; social justice; transfrontier responsibility; procedural equity and interspecies equity are important factors that should be included in measures of human progress (Haughton, 1999 as cited in Hopwood et al, 2005). In addition to the equity principles, the emphasis on self-restraint, balance and a spiritual view that honours the Earth and non-human beings are significant factors to consider (Ben-Eli, 2007 as cited in Blewitt 2008).

As the concept of sustainable development has gained momentum, the need to balance society's progress and wellbeing with the environment has become important. Subsequently,

a number of models and indicators based on the concept of sustainable development and the human-ecosystem relationship have been proposed as alternatives to measuring GDP.

The most common of these is a three-part model as a measure of progress, i.e. the social-economic-environmental model. It clearly identifies the need to balance different sets of values and goals (Hodge, 1997) but tends to ignore the broader issues that impact on sustainability such as the key role of community, health and culture in determining human wellbeing (Hodge, 1997).

The material-energy balance models, which were originally based in environmental economics and subsequently evolved in the pollution-natural resource depletion models, do not adequately measure the range of stresses on the ecosystem (Hodge, 1997). They do not take into account that the role of the ecosystem is far greater than as just the provider of energy and material resources (Hodge, 1997).

Another example is the stress-response model – the concept of stress at the human-ecosystem interface was first introduced and recognises the two-way nature of stress on people and on the ecosystem (Hodge, 1997). Their multifaceted categorisation of stress on the environment has facilitated a significant growth in the understanding of human-ecosystem interactions and the long-term impact on progress (Hodge, 1997). The limitation to this approach is that assessment goals are not articulated and explicitly linked to the models, thus the focus is on data sets rather than on human and ecosystem wellbeing (Hodge, 1997).

Hodge (1997) identifies several models which offer important insights including the explicit recognition of values as an influence on socio-political and environmental/ ecological design criteria. One of these is AGENDA 21, developed as an alternative model of progress. Hodge (1997) identifies six concerns with the AGENDA 21 model the first of which is that it reflects a primary concern for human conditions and a secondary concern for the environment; secondly, the focus is on resource management that reflects the pollution- depletion model; thirdly, it does not recognise that human society does not manage or make decisions directly controlling the environment, nor does it emphasise the responsibility that individuals and society have for their actions, and nor does it include an appropriate sense of humility; fourthly, it does not assume an approach to human activities that attempts to balance the value of these activities with the stress they impose on the ecosystem; fifthly, there is no recognition of either the different groups of decision-makers within any society or of the differences between various societies; lastly, Agenda 21 does not provide an overall sense

of the system that would facilitate anticipation of weak-links or even system-breakdown (Hodge, 1997).

However, AGENDA 21 offers a useful conceptual framework and way to measure progress because the power of the idea of sustainability lies in the intellectual links between disciplines as well as a practical link between traditionally disparate groups within society e.g. ecologists, scientists, psychologists and economists. It locates the very centre of bridging the notion of sustainability from theory to practice in the relationship between people and the enveloping ecosystem. AGENDA 21 recognises that effective assessing and reporting on progress toward sustainability depends on the use of a time horizon that is multigenerational and, subsequently, policies that address the related issues must also function over the long term (Hodge, 1997).

#### **2.4.5. Wellbeing Models and Indicators**

The final category of models takes cognisance of measures of national wellbeing including social and environmental indicators such as crime rates, mental illness and measures of environmental quality alongside objective quality of life indicators (Cohn, 2006). Included in this category are Thailand's National Progress Index, the National Wellbeing Accounts, the Gross National Happiness Index and the Happy Planet Index (Braun, 2009; Rampell, 2008).

The National Progress Index is a framework which takes social, economic and environmental wellbeing into account (Rampell, 2008). The National Wellbeing Accounts model proposes summarising the average wellbeing of a country by "...measuring national wellbeing by weighting the time allocated to various activities by the subjective experiences associated with those activities." (Kahneman, Krueger, Schkade, Schwarz, & Stone, 2004). In addition, comparisons between countries and subpopulations could also take place using this methodology (e.g., rich vs. poor) (Kahneman, Krueger, Schkade, Schwarz, & Stone, 2004). Similarly, Anielski (2011) has developed an accounting system, the Genuine Wealth accounting system, that takes both assets and liabilities into account for human, social, natural, infrastructure and financial capital.

The Gross National Happiness Index (GNH) was introduced to the Kingdom of Bhutan in its original form as a guiding principle for the absolute monarchy (Braun, 2009; The Centre for Bhutan Studies, 2008). Although this measure combines objective and subjective measures, it is described as an alternative, holistic approach to development (Sachs, 2011). It is based on Buddhism and spirituality and has four pillars namely equitable economic development,



environmental preservation, cultural resilience and good governance (Braun, 2009). The GNH was later expanded as it was neither measurable nor statistically sound (Braun, 2009).

With the move to democracy, the Centre for Bhutan Studies developed a revised GNH Index with nine dimensions that have both subjective and objective indices. This is because subjective and objective points of view do not exist in Buddhism – relationality is a more important concept for the Index (The Centre for Bhutan Studies, 2008). Furthermore, the concept of happiness is not linked to believing that external stimuli (or materialistic goods) will increase happiness and therefore the Index does not focus on material goods (The Centre for Bhutan Studies, 2008). The nine focus areas or indices are psychological wellbeing, time use, community vitality, culture, health, education, environmental diversity, living standards and governance (The Centre for Bhutan Studies, 2008). Although there have been concerns raised with regards to GNH Index including how democratic it is, whether it is too subjective as well as with the small sample size (which may not be fully representative), the results from GNH survey have led to the development of policies and allocation of resources to increase national happiness (Braun, 2009).

The Happy Planet Index measures sustainable wellbeing or the ecological or environmental efficiency with which human wellbeing is being delivered in each country (New Economics Foundation, 2009). It is calculated using three indicators: ecological footprint, life-satisfaction and life expectancy (Braun, 2009; (New Economics Foundation, 2009)). The most recent Happy Planet report (2009) illustrates that high consumption rates do not necessarily produce high levels of wellbeing within a country e.g. USA which has high consumption rates but lower levels of wellbeing in comparison to countries like Costa Rica (New Economics Foundation, 2009). However, this index only measures averages for each country and not equitable distribution (New Economics Foundation, 2009).

The New Economics Foundation (2004) believes that the one-dimensional life-satisfaction model does not sufficiently measure wellbeing. Multi-dimensional models of wellbeing have been developed from a number of theories in various fields including economics, psychology, sustainable development and health. These models allow for trade-offs between dimensions and may also be able to explain some statistical paradoxes that arise from exclusively adopting the life-satisfaction approach to measuring wellbeing. As this is a new emerging field, different authors or disciplines use different descriptions to refer to similar



concepts. Consequently, NEF recommends a multi-dimensional model with at least two distinct dimensions to wellbeing: life satisfaction and personal development<sup>5</sup>.

Other multi-dimensional models are those proposed by academics such as Robert E. Lane (2001), who argues that wellbeing should include aspects of human development and justice, and Joar Vitterso (1998), who proposes a two-dimensional model of wellbeing that is made up of a satisfaction component and a development component because he believes that life satisfaction is only one way that people experience life. Other support for further dimensions of wellbeing comes from the 'positive psychology' network which includes leading experts such as Mihaly Csikszentmihalyi, Daniel Kahneman and Martin Seligman (New Economics Foundation, 2009).

Another multi-dimensional model to measure human wellbeing is based on human needs theories. These theories are influenced by Manfred Max-Neef and Abraham Maslow (New Economics Foundation, 2004) and propose that a hierarchy of needs for human beings (Maslow) or an interconnected system of physical, social, developmental and spiritual needs where complementaries and trade-offs between different needs are common features of the process of needs satisfaction (Max-Neef) (New Economics Foundation, 2004). Max-Neef classifies the fundamental human needs as:

- subsistence,
- protection,
- affection,
- understanding,
- participation,
- leisure,
- creation,
- identity and
- freedom.

Needs are also defined by Max-Neef according to the existential categories of being, having, doing and interacting. NEF (2004) summaries these theories as follows:

---

<sup>5</sup> Personal development influences long-term physical health outcomes and mental health, especially resilient and creative ways of coping with life's challenges (New Economics Foundation, n.d.).

**Table 1: Wellbeing theories and associated terminology**

Source	Components			
nef's Wellbeing programme	Life Satisfaction		Personal Development	
Joar Vitterso University of Tromso	Hedonic or Goal Orientated Wellbeing		Eudemonic or Process Orientated Wellbeing	
Robert E. Lane Loss of Happiness in Market Economies	Subjective Wellbeing (Life Satisfaction)		Personal Development (and Justice)	
Carol Ryff Psychological Wellbeing	Self Acceptance Positive Relations Environmental Mastery		Autonomy Personal Growth	Purpose in Life
Martin Seligman Authentic Happiness	Pleasure – Positive Emotions “The Pleasant Life”		Gratifications “The Good Life”	Meaning “The Meaningful Life”
Manfred Max-Neef Human Development Scale	Subsistence Protection	Affection Understanding	Participation Idleness Creativity	Identity Freedom (Transcendence)
Abraham Maslow Hierarchy of Needs	Physiological Safety	Social and Belongingness	Self Esteem	Self Actualisation

(New Economics Foundation, 2004, p. 17)

A recent initiative to develop a happy society is Layard's 'Action for Happiness' movement. 'Action for Happiness' is a platform for like-minded members to form groups and bring about change (Layard, 2011). It is supported by a virtual network which has fifty different evidence-based actions from which people can choose to improve happiness (Layard, 2011). Much of these evidence-based actions are supported by the relatively new science of positive psychology (Layard, 2011).

## 2.5. Gaps Identified in the Literature

The literature identified five broad categories or different kinds of indicators or models that propose alternative measures of progress. These categories are the indicators based on the concept of basic needs or quality of life indicators; those models that try to address technical problems with GDP; models that focus on the environment and natural resources; sustainable development models and models that focus on wellbeing. Each of these categories has value and many have useful elements.

While both the sustainable development and wellbeing models are conceptually good, to date, none of these indicators have met the need to be universally applicable and able to measure the problem. In other words, for governments to measure what matters: people's happiness both now and future generation's happiness, while taking environmental issues into consideration, taking principles of equity and social justice into account. Therefore, the challenge is to broaden models so that they are multidisciplinary models that are both more comprehensive and integrated.

Furthermore, alternative measures of progress proposed to date have tended to be anthropocentric. However, happiness can only be achieved by making others happy and by making the planet happy, therefore Kumar (2011) comments that wellbeing must be a personal, social and ecological whole: 'Happy Person, Happy People, Happy Planet' (Kumar, 2011, p. 1). Shu-Yang, Freedman, & Cote (2004) emphasise that humans can only exist by using natural resources and therefore a need exists to conserve the earth's limited resources. Van der Ryn & Cowan (1996) advocate three critical strategies these are conservation, regeneration and stewardship<sup>6</sup> and these strategies are further supported by Jones (2011).

The earth-centred worldview is supported by the deep ecology movement (DEM) - an eco-centric approach to sustainable development that was founded by the philosopher, Arne Naess, in the early 1970s (Juniper, 2011). Deep ecology questions the current economic and social structures of society and the relationship between humans and non-humans and recognises that it is not possible for human beings to reach a place of wellbeing and ultimate happiness if we are living at war with the natural world – this state of war is deeply entrenched in our way of life and making peace will rightly ask a great deal from each one of us (Macy and Young-Brown, 1998; Jones, 2011). The key principle is for humanity to live equitably within nature's carrying capacity (Blewitt, 2008, Wackernagel and Rees, 1996). Harding (n.d.) describes deep ecology as using ecological wisdom, and not just ecological

---

<sup>6</sup> Conservation refers to minimising or decreasing the rate of natural destruction through the use of renewable sources of energy and materials but acknowledges that some damage must take place (Van der Ryn & Cowan, 1996). In order to maintain ecological integrity, there is a need to develop locally adapted solutions (Van der Ryn & Cowan, 1996). Regeneration, the expansion of natural capital through the active restoration and healing of degraded ecosystems and communities, takes into account the natural debt that has accumulated due to the environmental damage caused by anthropological activities and acknowledges that this debt needs to be repaid through the active restoration of the environment (Van der Ryn & Cowan, 1996). The belief that humans are responsible for the world and non-living and living beings and should take care of them is known as stewardship (Van der Ryn & Cowan, 1996).

science, as a way to answering ecological questions about how society should live. The revolution we need is to be conscious that our wellbeing is intricately linked to the wellbeing of all life on the planet (Jones, 2011).

Furthermore, the need exists to measure inequality within nations; and more literature on measuring personal development is required. If measuring human wellbeing as the key factor, then human wellbeing needs to be fully defined. A multidimensional definition of wellbeing would include a number of key dimensions which measure both objective and subjective wellbeing. These dimensions should include material living standards, health, education, governance, social capital and the environment.

## **2.6. Wellbeing as a Policy**

Both Singer (2011) and Layard (2011) feel that there is a growing international movement to re-orient government policies towards wellbeing and happiness. These initiatives to promote wellbeing as the central, ultimate goal of government policy have been led by the OECD, France and, most recently, the United Kingdom (Layard, 2011). An example of the shift is that, on 19 July 2011, the United Nations General Assembly unanimously adopted resolution A/RES/65/309 entitled 'Happiness: towards a holistic approach to development' (United National General Assembly, 2011). The UN recognises the pursuit of happiness as a fundamental human goal and notes that this goal is not reflected in GDP (United National General Assembly, 2011) (Singer, 2011). Furthermore, the Assembly invited Member States to pursue public policy steps and develop additional measures that better capture the goal of happiness (Singer, 2011).

Anielski (2011) questions whether it would be feasible for happiness to become the ultimate objective of economic development. His view is that governments will need a good understanding of the determinants of happiness in order for happiness and wellbeing to become credible goals of the economic development policies of nations, (Anielski, 2011). Singer (2011) justifies the attempt at using happiness as the goal of national policy by noting that new ideas may start off vague and may require refinement but that they may still have value. Quoting the famous economist, John Maynard Keynes: "I would rather be vaguely right than precisely wrong."

Marks (2011) comments that government should not aim to make us happy – this would be unrealistic but rather, governments should place wellbeing at the heart of their policies. Government's role should be to consciously create conditions that enable communities,

organisations and people themselves to enhance their wellbeing and create happier futures (Marks, 2011).

Nonetheless, if countries are going to pursue genuine wellbeing and progress, then new ways of defining, measuring and promoting wellbeing needs to be developed (Braun, 2009; New Economics Foundation, 2004). Given that defining economic wellbeing and setting economic goals are subjective and political tasks (Cohn, 2006; Braun, 2009), the need exists for economic discussion, between nations, politicians and economists, to develop an appropriate policy, model and tools (Cohn, 2006).

## **2.7. Conclusion**

This literature review questioned the measurement of human progress and societal wellbeing, using economic growth and specifically GDP. Problems with both the economic growth paradigm and GDP were identified and elaborated on. Subsequently, equating increased income or material wealth with increased happiness and wellbeing was dispelled as a myth.

Subsequently the need shift to a 'post-growth, high wellbeing society' was identified. This shift requires human progress to be redefined and alternative measures of progress to be developed (Dawson, 2011). This is because measuring what really matters will change policy decisions and trigger changes that make people's lives better (Marks, 2011). However, until GDP growth targets no longer dominate the thinking of policymakers, they will continue to distract policymakers from the more important goal of wellbeing and may even be counterproductive (Gosh, 2011; Anielski, 2011).

Five alternative models or indicators of progress were briefly analysed to find a means to measure what matters. However, each of these indicators were found to be lacking. The final category, wellbeing indicators, tended to offer the most likely solution to measuring what matters however, some gaps or problems with these indicators were identified, especially a need for greater focus on environmental issues and stewardship of the earth.

Wellbeing as a government policy was briefly examined in order to identify government's role in creating conditions that enable communities, organisations and people themselves to enhance their wellbeing and create happier futures (Marks, 2011). However, the conclusion was reached that despite the various alternatives to measuring human wellbeing, a need remains for developing a comprehensive, new way of defining, measuring and promoting wellbeing needs (Cohn, 2006; Braun, 2009; New Economics Foundation, 2004).

This literature review has limitations as not all alternative indicators and models have been included, but rather examples of the indicators; secondly, the field of happiness economics could have a more comprehensive overview; and finally, a tool to facilitate an in-depth comparison of each field could have improved the analysis.

### 3. RESEARCH PROCESS

#### 3.1. Introduction

Much theoretical research has been conducted into subjective wellbeing as a measure of progress but little empirical evidence exists to support it. This study aims to provide empirical evidence on the alternative measure of progress or subjective wellbeing (SWB) by conducting testing in a sample of people.

Originally, the Royal Bafokeng Nation was approached and discussions were held and a verbal agreement was in place to conduct the research. However, the Bafokeng were planning on conducting two major studies and withdrew their support a week before the fieldworker training was planned (Cook, 2011). The reason given was because they believed that any research involving human subjects in the Royal Bafokeng Nation was at a high risk of being politicised at that time and they were trying to mitigate the effects of this (Cook, 2011). “Given your proposed timeline for research—early February—the risk to our fieldwork process is too high.” (Cook, 2011)<sup>7</sup>.

Consequently another similar community, the Bakgatla-ba-Kgafela (Bakgatla) tribe, was approached. The Bakgatla have approximately 320 000 members with just over half of these members living on tribal land (160 000 people)<sup>8</sup>. Geographically, much of the tribal land falls under Moses Kotane Local Municipality (MKLM), which is one of five local municipalities within the Bojanala Platinum District Municipality (BPDM or Bojanala), in the North West Province of South Africa (NW) (Bojanala Platinum District Municipality, 2010). MKLM is mostly rural, and the closest large town in the Municipality is Mogwase (Moses Kotane Local Municipality, 2007). The Bakgatla Tribal Authority’s offices and the South African capital of the Bakgatla, is Moruleng (formerly known as Saulspoort). According to the MKLM website (Moses Kotane Local Municipality, 2007), the dominant economic sector within Moses Kotane is tourism, however, both mining and manufacturing are significant contributors to the municipality’s economy. It would seem that not all members of the Bakgatla have the same living standards or the same levels of progress.

Prior to the collection of data, numerous discussions were held with the Bakgatla. The questionnaire was submitted and a few changes were made to the questionnaire. Furthermore, the researcher had to attend a meeting with the tribal elders where the proposed research was presented and translated into Setswana. The elders then identified

---

<sup>7</sup> Subsequently, members of the Royal Bafokeng Nation’s administrative team visited Bhutan and held GNH-fund meetings in Bhutan (Bekker, 2011).

<sup>8</sup> Please See Addenda 1 for a comprehensive background on the Bakgatla

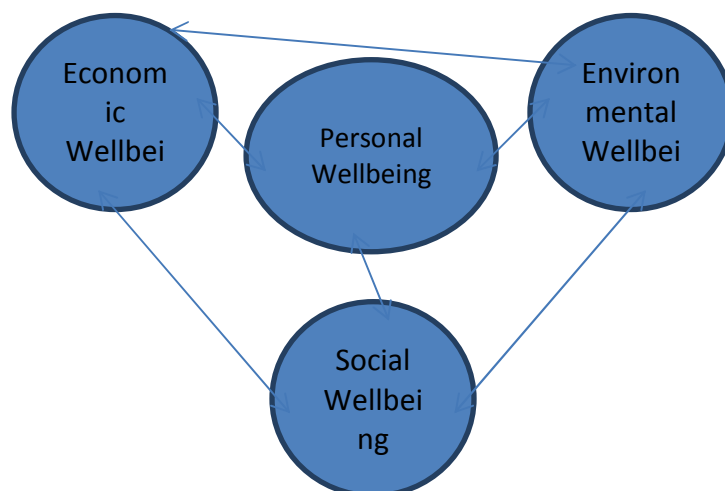
the village of Lerome as the appropriate sample for the study. An agreement was reached to present the final research outcomes once the University of Stellenbosch had accepted the research.

### 3.2. Theories and Models to be used

Radical economists recommend measuring an economy's success in terms of efficiency, fairness and democracy (Cohn, 2006). While contextual economics suggest satisfaction of basic physical needs and the promotion of happiness, self-realisation, good social relations, fairness, freedom, participation and ecological balance (Cohn, 2006). Ecological economists stress the importance of sustainability and community; and Marxist economists emphasise the importance of meaningful work in defining wellbeing (Cohn, 2006). NEF has noted the need for multi-dimensional models which are more beneficial to understanding people's wellbeing because they allow for trade-offs between dimensions or statistical inconsistencies which may arise from using the life-satisfaction approach (New Economics Foundation, 2004).

NEF (2004) has developed a framework for understanding wellbeing which proposes that there is an inter-relationship between economic, social and environmental wellbeing with people's personal wellbeing and each of these realms impacts on personal wellbeing. However, this framework prioritises humans and does not balance human needs with those of the environment.

**Figure 3: Interconnection of personal, social, economic and environmental wellbeing (New Economics Foundation, 2004, p.20)**





The model to be used in this study will be a combination of the *nef* model which illustrates the interconnection of personal, social, economic and environmental wellbeing and the GNHI which has nine focus areas namely, psychological wellbeing, time use, community vitality, culture, health, education, environmental diversity, living standards and governance (The Centre for Bhutan Studies, 2008). In addition to the suggested models above, the study will have a greater environmental emphasis and therefore, four strategic reporting elements will include in measures of progress:

1. Ecosystem – health and integrity of the ecosystem
2. Interaction – between people and the ecosystem: how and to what extent human activities contribute to provision of basic needs and quality of life; how these activities are valued, how these actions stress or contribute to restoring the ecosystem
3. People – data and information assessing the wellbeing of people: individuals, families, communities and institutions created to achieve goals including the consideration of the range of physical, social, cultural and economic attributes
4. Synthesis – data and information facilitating recognition of emergent system properties and providing an integrated perspective for decision-makers and anticipatory analysis (Hodge, 1997).

### **3.3. The Research Question**

In order to address the research problem effectively it is proposed that the Bakgatla's progress can be measured more accurately using subjective wellbeing instead of annual per capita income.

The Null Hypothesis is that the Bakgatla's progress is not determined by the eight dimensions of wellbeing namely physical, mental and emotional, spiritual, financial, occupational, environmental, social and intellectual wellbeing but purely determined by their annual per capita income.

And

The alternative hypothesis is that the subjective wellbeing of members of the Bakgatla are influenced by eight dimensions of wellbeing namely physical, mental and emotional, spiritual, financial, occupational, environmental, social and intellectual wellbeing and not purely by their annual per capita income.

The associated research questions are as follows:

- Do subjective and objective measures of wellbeing correlate or is there a relationship of causation between these measures?
- What is the direction of causation between these dimensions of wellbeing?
- Which dimensions of wellbeing have a larger impact on general life satisfaction?
- Is subjective wellbeing influenced by personal development elements or working towards higher causes?

Although the findings of the study will focus on the central research question or null hypothesis, it is important to understand the context of the study and thus a number of contextual elements and relationships will be explored.

### **3.4. Research design and methodology**

The study was a cross-sectional study that can be applied in future as a longitudinal study. The subjects should benefit directly through the revision of policies and interventions within the Bakgatla-Ba-Kgafela. There is potential for society, especially within South Africa, to benefit from a revised measure of progress that does not prioritise economic growth but society's wellbeing.

#### **3.4.1. The Research Instrument**

The research instrument or measure is a questionnaire (refer to Addenda C). This instrument is largely based on an adapted version of the Gross National Happiness Index questionnaire which was tested in 2005 (The Centre for Bhutan Studies, 2008). Due to the multi-variate nature of the phenomena studied, the survey consists of a large number of variables. The abstract nature of many of the variables, such as subjective wellbeing, requires the use of scales and indices to construct the variables. Construct validity will be addressed by following the protocol or proposal and through the use of the researcher (supervisor) assessing the research instrument against the research question prior to piloting the instrument.

#### **3.4.2. Sampling**

The sampling frame is Lerome village. Lerome is situated adjacent to Moruleng, as well as in close proximity to the tourist attractions of Sun City/ the Lost City and the Bakgatla Gate of Pilanesberg National Park. The estimated total population for Lerome was 8184 (Census 2007) and it is projected that the population will be almost 12 000 people in 2011 – a growth of approximately 30%. Little information exists on Lerome itself; therefore it is assumed the village is faced with the same socio-economic, cultural and environmental problems identified for the Bakgatla villages and the platinum mining regions of the North West

Province. It is uncertain as to whether it is a typical village of the Bakgatla with regards to demographics.

Random sampling was conducted on working age population (18-65) in four parts of Lerome. It is assumed that besides age and sex, the population is relatively homogenous with respect to the dependent variable being explored. The sample size will be 120 individuals or respondents. Participants were selected for the study because they are residing in tribal land belonging to the Bakgatla Nation. This is calculated from 1.8% of the assumed working population of 6600 within the village of Lerome (based on a population of 12 000 with 55% of the population falling within the economically active age group). It is likely that the results will be generalisable from the sample to the population due to the fact that we are using a typical sample within a typical sampling frame i.e. external validity is probable (Trochim, 2006).

#### **3.4.3. Research Procedures**

The Data gathering process was carried out using the survey instrument, administered using face-to-face interviews by trained, Setswana-speaking fieldworkers. The fieldworkers were identified by the Bakgatla Director of Community Development and Liaison, Mr. Lebogang Mataboge. The field workers had prior experience and training from previous community research conducted however, they received specific training on the questionnaire and on the ethical nature of the research over a period of two days. All four field workers were female hence results may be skewed as they may have felt more comfortable approaching women to complete the questionnaires or this may be because more women stayed at home or weren't at work.

Data was gathered during February 2011 and collected during a period of two weeks. Although most collection took place on weekdays, there were some questionnaires completed over weekends. Study participants were asked a number of questions and the answers to these questions were recorded on a questionnaire. Consent forms were completed prior to questioning and candidates were assured of confidentiality. Each interview took approximately 1.5 to 2 hours. Participants were not paid for taking part in the study.

Confidentiality was maintained by means of use of anonymous questionnaires, using interviewers who were not from the village of Lerome and data was kept in a locked, alarmed room. The questionnaires will be destroyed three months after the thesis has been submitted

and approved by shredding all copies and disposing of these in a recycling facility. Furthermore, the electronic data has been stored in a password protected file. The final report will be released to the Bakgatla Tribal Authority but will not refer to individuals in any way.

This study was purely voluntary and therefore participants could withdraw at any time without any consequences or they could refuse to answer any questions but still remain in the study. One respondent chose to withdraw from the study and there were thus 119 respondents. A number of respondents chose to not answer some questions but remained in the study.

#### **3.4.4. Data analysis**

Data preparation was done by capturing the survey data in an Excel spreadsheet. Sample questions were then checked for accuracy. The questionnaire or survey tool consists of a variety of data types; nominal, ordinal and interval as well as qualitative data. The data was imported into a statistical programme (SPSS) for analysis (Human, 2011). Three levels of analysis was used:

- Descriptive: All variables (Nominal, Ordinal and Interval) were analysed to summarise the properties of single variables in order to provide simple summaries about the sample and the measures (Koop, 2004). The results were expressed as frequency distributions (percentages in the case of nominal data) and means (in the case of ordinal or interval data) (Human, 2011). Histograms were used to investigate the distribution of responses and to check for the normality of these distributions (Koop, 2004; Human, 2011).
- Explanatory: In exploring the relationships between variables, a variety of statistical tests and techniques were used. In the case of ordinal and interval data, extensive use was made of Pearson's Partial Correlations (Human, 2011). Correlation testing is defined as the way of numerically quantifying the relationship or association between two variables, while Pearson's correlation coefficient ( $r$ ) is specifically conducted to measure the strength of the association between the variables (Koop, 2004). When the dependent variable was a nominal variable, Analysis of Variance (ANOVA) was used to search for relationships. ANOVA is defined as a statistical test of whether or not the means of several groups are all equal (Koop, 2004). Therefore, these relationships were established when significant differences in the means were established and a pattern could be discerned from these differences (Koop, 2004; Human, 2011). A significance level of 5% was consistently used (Human, 2011).

- Hypothesis Testing: Due to the abstract nature of many of the variables, the analysis focused more on the exploration of relationships and the search for ‘interesting’ insights rather than the confirmation of hypothesis in the strict scientific sense of the word (Human, 2011). However, the format of the research question was formulated as an equation: that the dependent variable is explained by a number of independent variables (Koop, 2004). The method for testing this statistically, is a multiple regression analysis (Koop, 2004). A number of composite variables were created (sums or counts of a number of variables to create an index) (Human, 2011). All the variables that were used in this analysis were tested for a normal distribution (Human, 2011). A correlation matrix of all the variables was done to look for relationships (Koop, 2004). The linearity of these relationships was checked (Human, 2011). Multiple regression analysis was conducted.

### **3.5. Conclusion**

Much theoretical research has been conducted into subjective wellbeing as a measure of progress but little empirical evidence exists to support it. This study aims to provide empirical evidence on the alternative measure of progress or subjective wellbeing (SWB) by conducting testing in a sample of people.

## 4. FINDINGS AND RESULTS

### 4.1. Introduction

Since 1996, the North West province and the Bojanala Platinum District Municipality specifically have experienced increasing economic growth and prosperity. Much of this can be attributed to the mining sector which grew at an average annual growth rate of approximately 7% between 2002 and 2005, although growth has been marginally slower in the past five years. Mining has been driven by the sustained increase in the demand and price of platinum due to China's economic growth and an increase in demand for catalytic converters, a compulsory component of all automobiles which reduces pollution. Besides the immense growth in mining operations, there has also been a substantial increase in the processing of raw ore into platinum, through the smelting process (North West Department of Agriculture, Conservation and Environment, 2008).

Despite the region's dramatic increase in income, the distribution of wealth is very uneven and there are still many people who live in severe poverty<sup>9</sup> – especially in the rural areas such as those in which the Bakgatla villages are found (North West Department of Agriculture, Conservation and Environment, 2008; Bench Marks, 2007). Although the poverty rate for the district as a whole decreased from approximately 44% in 1999 to 36.8% in 2002, the highest poverty rate within the district is prevalent in the Moses Kotane Local Municipalities (52.7% in 2003). A total of 67% of households earn R1 600 per month or less. Many of these indigent households are headed by women (Bojanala Platinum District Municipality, 2010).

The primary drivers of human vulnerability and poverty are low levels of employment, high population densities leading to settlement problems, household income disparities, low levels of education, and high levels of HIV/AIDS (North West Department of Agriculture, Conservation and Environment, 2008; Bench Marks, 2007). These issues are linked and related, forming a vicious circle that impacts on human development levels in the region and likely to have been compounded by the world financial crisis and the subsequent recession, thus increasing poverty (UNICEF South Africa and the Financial and Fiscal Commission of South Africa, 2010).

Although the findings of the study will focus on the central research question or null hypothesis, it is important to understand the context of the study and thus a number of contextual elements and relationships will be explored. Composite variables from some of

---

<sup>9</sup> Measured by the number of people eligible for government grants.

the elements in each section will be created and correlations between variables will be tested. This will be followed by a multiple regression analysis to test the null hypothesis.

#### 4.2. Demographics

According to the statistics in the 2010/2011 Integrated Development Plan (IDP) for BPDM, Moses Kotane Local Municipality covers 5215 KM<sup>2</sup> and in 2007 had a population size of 227 426. Furthermore, the 2007 Community Survey statistics as cited in the IDP (2010) show that within the district municipality, 36.5% of the population are 19 years or younger while 34.9% are between 20-39 years old. Nearly 55% of the population falls into the economically active category and most likely, would be looking for employment. 7.9% of the population was 60 years and older in 2007 (Bojanala Platinum District Municipality, 2010).

The majority of respondents who participated in the study were female (84 respondents or 70.6%), compared to 35 men who participated (29.4%). The ratio of female to male household members differs from the respondents' individual statistics as there are almost 56% female to 44% male household members (including respondents).

**Table 2: Sample Household Members by Sex**

	N	Percentage
Male	197	44.0%
Female	250	55.8%
Unknown	1	0.2%
Total	448	100.0%

The majority of the participants in the study (40%) were between 20 and 35 years old. 27% of participants were between 36 and 50 years old, while 23% were between 51 and 60 years old. Only 10% of the respondents were over 60. Therefore, 90% of all respondents fall within the parameters of an economically active population.

**Table 3: Demographic profile of Moses Kotane Local Municipality**

Size (KM <sup>2</sup> )	Population		Number of Households	
	2001	2007	2001	2007
5 215	237 175	227 426	61 759	60 557

**Source: 2001 Stats SA Census & 2007 Community Survey Report High**

**Table 4: Study Participants by Age Category**

Age	N	%
20-35	47	40%
36-50	32	27%
51-60	27	23%
61-80	8	7%
81+	3	3%
Total	117	100

The household age profile of study participants is similar to the 2007 community survey as households had 6% of children under the age of five, 21% of children under 18, 36% between 20 and 35 years old, 11.7% between 35 and 60 years old making the percentage of economically active population just over 64% - which is higher than the Bojanala statistics for 2007. 7% of household members were over 60 years old. Respondents were uncertain about the age of nine household members. The implication for Lerome is that in the next five years, it is likely that the number of youth looking for employment will increase and that in 10 years time, the population will be aging and will require facilities and grants for pensioners. There may also be a declining population growth in Lerome; however, there is insufficient information to calculate this.

**Table 5: Sample Household Members by Age Category**

	N	Percentage
0 - 4	27	6.1%
5 - 19	92	20.6%
20-35	162	36.3%
36-50	73	16.4%
51-60	52	11.6%
61-80	27	6.1%
81+	4	0.9%
Ages unknown	9	2.0%
Total	446	100.0%

The Bojanala District's Integrated Development Plan (IDP) comments that in 2001 there were approximately 60,557 households (Bojanala Platinum District Municipality, 2010). Thus



the average household size in 2007 was approximately 3.7 people per household (researcher's calculations). The average household size for study respondents is marginally higher with 3.75 people per household.

Respondents were asked about the relationships with household members. The majority of respondents (29.9%) live with their children and their partners (11.6%). 48 respondents had never married, 11 were living in common-law marriages, 38 were currently married, five were divorced, three were separated and 14 had been widowed. Most had never married (just over 40%) followed by almost 32 per cent of respondents currently married. If the number of respondents living in common-law marriages is included with official marriages, then 41% of respondents are married. Almost 10% of respondents live with their siblings, while approximately 7.8% live with their parents. Over 5% of respondents have their grandchildren in their households. In these households, all three generations may live together, i.e. grandparents, parents and grandchildren or in many cases, just grandparents and children. This may be due to migratory labour patterns where parents work away from home (although the data for remittances does not necessarily illustrate this), for traditional reasons or due to the impact of HIV. Another interesting scenario is in households with distant family relatives and non-family members as these household members may be mine workers who have been given a "living out" allowance in the attempt to reduce migratory labour patterns in the mining industry and to do away with mine hostels (Bench Marks, 2007).

**Table 6: Sample Household Size**

	<b>N</b>	<b>Percentage</b>
Respondents	119	26.6%
Wife/ husband	52	11.6%
Son/ daughter	134	29.9%
Father/ mother	35	7.8%
Sister/ brother	42	9.4%
Grandchild	25	5.6%
Grandparent	5	1.1%
Niece/ nephew	16	3.5%
Son-in-law/ daughter-in-law	4	0.9%
Brother-in-law/ sister-in-law	0	0.0%
Father-in-law/ mother-in-law	1	0.2%
Other family relative	12	2.7%
Live in servant	0	0.0%
Other non-relative	3	0.7%
<b>Total</b>	<b>448</b>	<b>100.0%</b>

Significant factors to note concerning demographics is that there was a predominant response by females in the study despite the population being relatively even at a 56:44 female to male ratio in the community. In addition the vast majority - 90% - have the potential to be economically active, but only 39.9% of these are employed. Multi-layered relationships exist within surveyed households and the significance of these is explored in “family dynamics and interaction” in the social wellbeing section (page 66).

### **4.3. Financial Wellbeing**

As a result of the increase in economic growth, the Bojanala Platinum District Municipality is the least poor district municipality in North West Province and is the economic growth engine of the province (Bojanala Platinum District Municipality, 2010). Between 2001 and 2004, BPDM experienced a 5% annual GDP growth rate and during 2008 it contributed 3.4% to the total national GDP (Bojanala Platinum District Municipality, 2010). Income per capita increased from R16,000 in 1996 to over R18,000 in 2005 at constant prices (Bojanala

Platinum District Municipality, 2010). In 2004 specifically, GDP per capita for BPDM was R24,556. Although this figure is above the national average, it is skewed by the high per capita GDP for Rustenburg Local Municipality (R45 746). The GDP per capita other local municipalities, including Moses Kotane Local Municipality, is estimated to have been lower than the national average in 2004 (Bojanala Platinum District Municipality, 2010).

An estimated 265 000 people were employed in Bojanala DM in 2008. The mining sector is responsible for the vast majority of employment opportunities within NW Province, contributing 34% of all formal employment (Bojanala Platinum District Municipality, 2010). Furthermore, mines pay royalties for mining on tribal land and these royalties are substantial amounts of money which could be an additional economic resource for communities. However, royalties can be a source of conflict when communities perceive their distribution as unfair. Corruption may significantly contribute to this. (Bench Marks, 2007). Despite the employment opportunities, royalties and shareholding in mining operations, Bench Marks research (2007) has shown that traditional communities adjacent to mines remain poor.

A high degree of inequality exists in South Africa, due to the apartheid policies of the past (UNICEF South Africa and the Financial and Fiscal Commission of South Africa, 2010). The North West Province is no exception. The mining boom has exacerbated this inequality as evidenced by the growth in the income gap between the wealthy and the poor - the Gini coefficient for the NW is above 0,6, making the province one of the most unequal regions globally. The income gap also applies to the vast differences in income between the tribal leaders or royalty, and their subjects (Bench Marks, 2007). The Bench Marks report (2007) notes that income differences exacerbate social problems such as violence, crime and STDs.

In an attempt to ameliorate and reduce income inequalities and poverty, a number of social grant programmes have been implemented (UNICEF South Africa and the Financial and Fiscal Commission of South Africa, 2010). The UNICEF study in 2010 declared that "There is mounting evidence that poverty has been declining substantially since 2000, and this decline is largely caused by the expansion of social grants..." and "...Leibbrandt, Woolard and Woolard (2009) summarise the evidence regarding poverty trends by saying poverty had declined and the social grants had largely been driving this process." (UNICEF South Africa and the Financial and Fiscal Commission of South Africa, 2010).

The number of people in the District who are dependent on social grants in order to survive is illustrative of the levels of poverty (Bojanala Platinum District Municipality, 2010). The table below presents the statistics of grant recipients in Moses Kotane Local Municipality:

**Table 7: Statistics of Grant Recipients in Moses Kotane Local Municipality**

Moses Kotane Municipality	Grants per financial year		
	2008	2009	2010
Old age	16080	18535	19817
Disability	6695	6229	6151
War veteran	5	4	4
Foster Care	2013	2322	2375
Combination	11	10	12
Care Dependency	236	304	308
Grant-in-Aid	145	174	266
Child support	20008	25332	26723
Totals	45193	52910	55656

Source: SASSA-Bojanala District, February 2010 (Bojanala Platinum District Municipality, 2010)

Study respondents have a variety of sources of income but 59 respondents or 40.7% received income from their wages or salaries. Social grants and pensions are a key source of income for many households (32.5%) and 24 people or 16.6% received income from their own businesses. Although 23 people received pensions, this number does not corroborate with employment status statistics above. On further investigation, many pensioners described themselves as 'unemployed' for employment status. Not all sources of income may be included in this e.g. tenants or remittances may have been left out. Furthermore, respondents were not asked about non-cash income like payments in-kind or food and thus the question needs refining. Only 3,4% received remittances and 2 people received income from their farms (only one person described himself as a farmer and this could be a secondary occupation).

**Table 8: Sources of Income**

	N	Percentage
Wage/Salary	59	40.7
Own Business	24	16.6
Social grants	24	16.6
Pension	23	15.9
Remittances	5	3.4
Other	4	2.8
Farm	2	1.4
No Income	2	1.4
Inheritance	1	0.7
Sale of land/asset	1	0.7
<b>Total</b>	<b>145</b>	<b>100.0</b>

As a means of gauging equality within households in Lerome, participants were asked whether their families are wealthier, poorer or earn approximately the same as other families in their community. The majority of respondents (70.6%) thought their family earned about the same amount as other families in the community. Only seven respondents thought they were wealthier than most families while 18.5% thought they were poorer.

**Table 9: Income in Comparison to Other Families in Community**

	N	Percentage
Wealthier than most families	7	5.9%
About the same as most families	84	70.6%
Poorer than most families	22	18.5%
Don't Know	6	5.0%
<b>Total</b>	<b>119</b>	<b>100%</b>

When respondents were asked how their family's financial position had changed over the past few years, compared to other families in their community, most people felt that their financial position had changed about the same as most families (43.7%) although a quarter of respondents felt their position had improved less than most families. A large number of respondents (28) did not know how their financial position had changed in comparison to other families. Study participants were then asked whether they thought their family's

financial situation would improve, worsen or remain the same. More than half of the respondents felt their situation would improve, while 28.8% did not know.

**Table 10: Financial Position Changes in Comparison to Other Families**

	N	Percentage
Financial position has improved more than most families	9	7.6%
Financial position has changed about the same as most families	52	43.7%
Financial position has improved less than most families	30	25.2%
Don't Know	28	23.5%
Total	119	100%

**Table 11: Self-predicted Future Financial Situations**

	N	Percentage
Get Better	64	54.2%
Stay the same	18	15.3%
Get worse	2	1.7%
Don't Know	34	28.8%
Total	118	100%

When respondents were asked how well total household income met everyday needs for food, shelter and clothing for their families, 33.3% said 'not enough', 61.5% said 'just enough' and 5.1% felt their income was 'more than enough'. Respondents were then asked what they would do if they needed to make an unexpected payment of R5000 above everyday household needs. Respondents would generally do a combination of things, with most respondents using their savings (35%), 26% would borrow from a bank, 20% would borrow from a relative and 14% would borrow from a friend or from an informal lender. Only 8 people would sell an asset to cover the unexpected payment.

**Table 12: Total Household Income Meeting Family's Needs**

	N	Percentage
Not Enough	39	33.3%
Just Enough	72	61.5%
More than Enough	6	5.1%
Total	117	100%

**Table 13: Unexpected payment to be made**

	N	Percentage
Use savings	42	35%
Borrow from relative	24	20%
Borrow from a friend	17	14%
Borrow from a bank	31	26%
Borrow from other informal lender/mashonisa	17	14%
Sell an asset	8	7%
Total	139	100%

An alternative measure of respondents' financial position is to assess their financial state over the previous year as well as measure their asset base. Respondents were asked a number of questions regarding their financial position over the preceding year and they responded "yes" or "no". Over the preceding year 18.6% of respondents bought second-hand clothes, 23.7% continued wearing worn out clothes because they couldn't afford to replace them, 19.5% had difficulty in contributing to community events, and 12% could not send their children to school due to costs, while 19% could not repay loans on time. Almost 30% of respondents had difficulty in providing financial assistance to parents and extended family members and 20.3% postponed urgent repairs to their houses. 3.4% of respondents sold assets to raise money for their basic expenses. It is difficult to tell whether this figure is fully reflected in the information below pertaining to assets.

**Table 14: Alternative Indicators of Financial Position**

	Yes		No	
Bought second hand clothes instead of new ones to keep costs down.	22	18.6%	96	81.4%
Continued wearing clothes and shoes that were worn out because you couldn't afford replacements.	28	23.7%	90	76.3%
Had difficulty in contributing to community festivals/ events	23	19.5%	95	80.5%
Could not send children to school due to costs	14	12.0%	103	88.0%
Could not repay loans or mortgages on time.	22	19.0%	94	81.0%
Had difficulty providing financial assistance to parents and extended family members.	35	29.7%	83	70.3%
Postponed urgent repairs and maintenance of your household.	24	20.3%	94	79.7%
Sold equipment, land or other assets to raise cash for basic expenses.	4	3.4%	114	96.6%

When respondents were asked whether they were comfortable with their current level of household debt, just over 60% did not feel comfortable with debt while close to 40% were comfortable.

**Table 15: Level of Comfort with Household Debt**

	N	Percentage
Yes	47	39.8%
No	71	60.2%
Total	118	100%

One of the key aspects that impacts on developmental activities within the Bojanala Platinum District Municipality is land ownership, as large areas of land are under custodianship of various traditional authorities. According to available information, this applies to approximately 32% of the total land area of Bojanala. In Moses Kotane LM, the amount of land under control of traditional authorities is as high as 50.8% (Bojanala Platinum District Municipality, 2010). Both economic growth and investment, and poverty alleviation and the meeting of basic needs are inextricably linked to land ownership (Bojanala Platinum District Municipality, 2010).



Study candidates were asked whether the house in which they reside is rented or owned. This question may not necessarily be accurately interpreted as the town of Lerome is situated on tribal-owned land and houses on this land are owned by individuals. No differentiation was made between the kinds of houses in which people live so although some respondents confirmed ownership of their houses, a portion of these are shacks rather than brick houses. Almost 95% of individuals own their houses and just over 5% rent the houses in which they live.

The Bojanala Platinum District is the densest and fastest urbanising District in NW Province (North West Department of Agriculture, Conservation and Environment, 2008). Human settlement problems are driven by a number of factors including rapid urbanisation, migration due to the attraction of employment opportunities, extensive underdevelopment and few employment opportunities in rural areas (Bench Marks, 2007; North West Department of Agriculture, Conservation and Environment, 2008).

The consequences are that urban growth tends to occur in a haphazard manner, and most urban areas in the North West Province do not have adequate response mechanisms to urbanisation. As a result, the NW Province had the highest number of informal settlements in the country, as almost one quarter (23.8%) of the households are regarded to be informal (North West Department of Agriculture, Conservation and Environment, 2008; Bench Marks, 2007).

**Table 16: Ownership Status of Home**

	N	Percentage
Rented	6	5.1%
Owned	112	94.9%
Total	118	100%

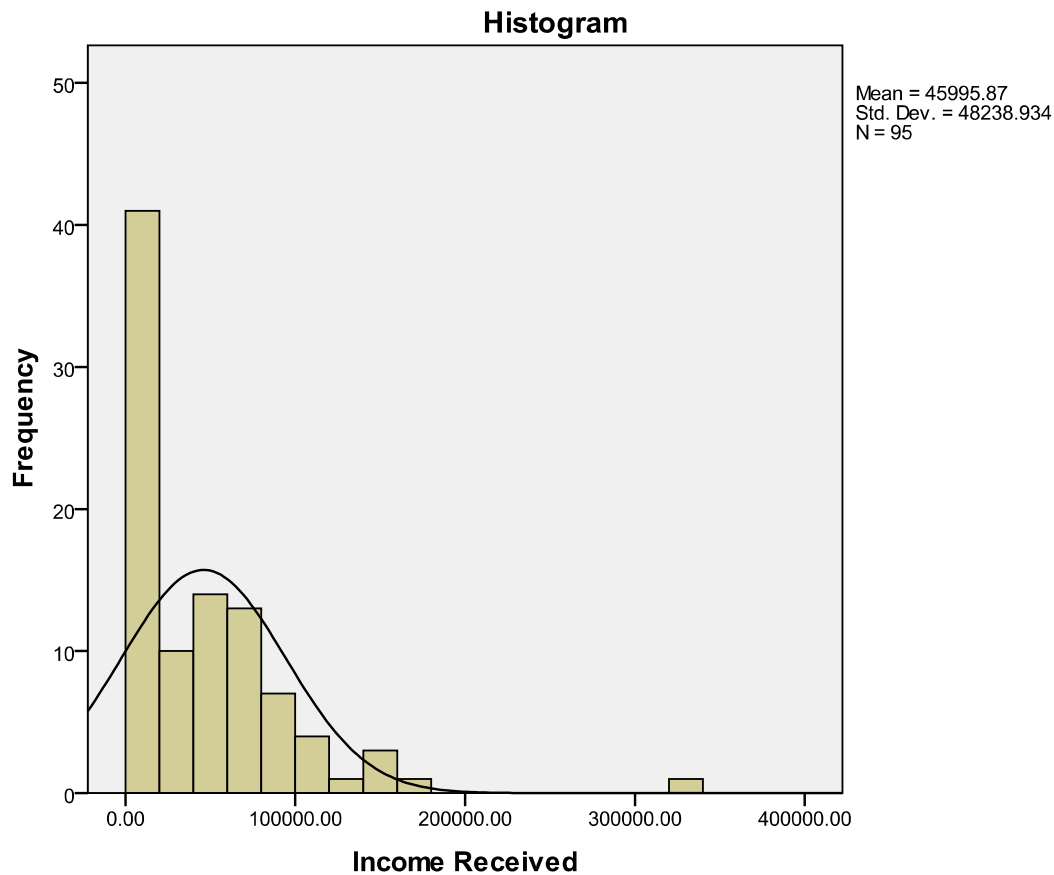
When respondents were asked “Which of the following assets do you own?”, most respondents own televisions (116), radios (115), cell phones (111), furniture (108), wheel barrows (102) and land or houses (100). About half of the respondents have cash in the bank (66) but few respondents own livestock (between 16 and three).

**Table 17: Assets**

Assets	Number of Respondents
Land or houses	100
vehicle	47
farming equipment	10
wheel barrow	102
radio	115
TV	116
Furniture	108
cellphone	111
cash in bank	66
cows	16
bulls	3
goats	10
sheep	3
horses	0
donkeys	0
mules	0
chickens	38
pigs	0
other	0

The question of how much income was received during the past twelve months was included in the questionnaire and rather than developing a composite variable for financial wellbeing, income was used as the variable in the model. A few respondents did not want to disclose their income and even where people did disclose income, they may not have been honest. 43 respondents earned less than R24 000 per annum or the equivalent of R2 000 per month, but the average income was R45 996. Only 10 people earned more than R100 000 per annum. The maximum amount earned was R320 000 (earned by 1 respondent) for the preceding 12 months. In order to analyse the impact of annual per capita income on the Bakgatla's progress, income was divided into three equally sized 'classes' of income; 'low' is up to R12 960 (36.8% of respondents), 'Middle' between R12 961 and R50 000 (30.5% of respondents) and 'High' over R 50 000 (32.6% of respondents).

**Figure 4: Annual Average Income**



**Table 18: Income Received by Class**

		Frequency	Average Income (R)	Valid Percent	Cumulative Percent
Valid	Low Income	35	9064.80	36.8	36.8
	Middle Income	29	34482.75	30.5	67.4
	High Income	31	98462.58	32.6	100.0
	Total	95	45995.87	100.0	
Missing	System	25			
Total		120			

What is noteworthy, is that almost a third of the respondents – despite the fact that most of them fall into the economically active population category – are dependent on social grants. Only 40% of study participants earn formal salaries. Subsequently, income inequality is high

– despite 71% of respondents believing their financial position is similar to other families. A high percentage (95%) of respondents own the houses in which they live. However, no distinction was made between owning the land on which houses are built, and whether these are brick houses or shacks, which would give further evidence of both financial leverage and income inequality.

#### **4.4. Educational Wellbeing**

The literature highlights the importance of personal development which is thought to relate to long-term health outcomes and to the ability to cope flexibly and creatively with life's challenges (New Economics Foundation, n.d.). Education and developing oneself through education are forms of personal development and should positively impact on subjective wellbeing or happiness. Yet some researchers have found a negative link between life satisfaction and the level of years spent in formal education – this has been attributed to the increase in education raising expectations (Powdthavee, Happiness and Wellbeing, 2009).

The IDP for Bojanala District Municipality notes that education plays a crucial role in economic and social development as it prepares people for the labour market and directly affects their quality of life (Bojanala Platinum District Municipality, 2010). "...studies from developed countries suggest a correlation between literacy and numeracy scores at age seven and earnings at age 30." (SA National Planning Commission, 2011).

Although South Africa has experienced an increase in basic literacy rates since democracy, the quality of education for poor and most black people has remained inferior: one of the key problems in South Africa is that "The quality of school education for most black people is sub-standard." (SA National Planning Commission, 2011). Consequently, when young black people transition from school to higher education and work they are both ill-prepared and unqualified (SA National Planning Commission, 2011). It is likely that all the schools in Lerome and surrounding areas are predominantly for black children and therefore it can be assumed that the youth suffer from the issues described above.

Statistics from the 2007 Community Survey Report for Bojanala District corroborate this. Approximately 15.1% of the population older than 20 has not received any form of schooling and a further 19.7% of people have only received some primary education, implying that nearly 35% of the total adult population is functionally illiterate. Furthermore, only 20.1% of the adult population has completed their high school education and only 5.5% has obtained some form of tertiary education (Bojanala Platinum District Municipality, 2010). It was also

found that the district labour market is characterized by low skills levels (Bojanala Platinum District Municipality, 2010).

Based on this information, it is likely that the quality of education in Moses Kotane Local Municipality is questionable. The existence of sufficient educational facilities within the District is not known. The table below illustrates the educational facilities/schools located in Bojanala District Municipality (Bojanala Platinum District Municipality, 2010).

**Table 19: Educational facilities within BPDM**

Type of Educational Institution	Number
Primary	349
Intermediate/Middle Schools (Grade 5-7)	127
Secondary	116
Combined	20
Technical Colleges	2
University	0
Total	614

Source: Bojanala District office for the North West Department of Education, 2008

Approximately 17.2% of the sample population have received only some primary education, with five respondents not attending school at all. This implies that almost 19% of the total sample is functionally illiterate, although this figure is likely to be much higher. Although 55% of the sample respondents have some high school education, the quality is likely to be sub-standard as previously noted. 14.7% of study respondents have some higher learning qualifications – this figure is higher than the average Bojanala figure of 5.5.% who have obtained some form of tertiary education. Almost 10% of respondents have attended a vocational college and two people have received learnerships. Furthermore, in line with the district labour market which is characterized by low skills levels, only 21 people have had some form of apprenticeship or similar non-formal education (Bojanala Platinum District Municipality, 2010).

**Table 20: Educational Levels**

	N	Percentage
Primary school	20	17.2%
High school	64	55.2%
Vocational college	11	9.5%
Learnership	2	1.7%
University/ Technicon	17	14.7%
Other (including not attending school)	5	1.7%
Total	119	100%

**Table 21: Non-formal Education**

	N	Percentage
Yes	21	17.6%
No	98	82.4%
Total	119	100%

Most respondents speak, read and write three languages although one respondent speaks eight languages. All study respondents speak Setswana (100%). The majority of respondents speak English (87.4%), followed by Afrikaans (71.4%) and Sesotho (21.8%). Three people speak French, one person speaks an Indian language (unspecified).

**Table 22: Literacy and Languages**

	Number of languages									
	1	2	3	4	5	6	7	8	9	N
Speak	9	18	57	18	7	7	2	1		119
Read	8	11	61	16	10	8				114
Write	8	13	63	16	9	5				114

**Table 23: Languages Spoken**

Language	N	Percent	Total
Setswana	119	100.0%	119
Afrikaans	85	71.4%	119
English	104	87.4%	119
IsiNdebele	2	1.7%	119
IsiXhosa	12	10.1%	119
IsiZulu	18	15.1%	119
Sesotho sa Leboa	11	9.2%	119
Sesotho	26	21.8%	119
siSwati	3	2.5%	119
Tshivenda	4	3.4%	119
xitsonga	3	2.5%	119
None	0	0.0%	119
Other	4	3.4%	119

The proxy or variable for educational wellbeing is the highest level of education achieved, based on an ordinal level scale.

A significant factor to note concerning education is that Bakgatla seem better educated than the rest of the Bojanala population. The relationship between education, income and livelihoods and the significance of these is explored in the correlation analysis chapter.

#### **4.5. Occupational wellbeing**

Literature on unemployment and subjective wellbeing notes that the effect of unemployment on life satisfaction is negative, as unemployed persons are significantly less satisfied with life than those who are in full-time employment (Powdthavee, Happiness and Wellbeing, 2009). The negative effect is attributed to loss of self-esteem and personal control as well as decreasing mental health (Powdthavee, Happiness and Wellbeing, 2009). Furthermore, the social cost of being unemployed is stigmatised, especially in a world in which the norm is to have a job although the social cost of unemployment is smaller when there are more unemployed people in society (Powdthavee, Happiness and Wellbeing, 2009).

According to the SA National Planning Commission (2011) “Too few South Africans work” (SA National Planning Commission, 2011). Bojanala has an unemployment rate of 21,6% and the Moses Kotane municipality has the highest rates of unemployment in the District with an estimated unemployment rate of 26.5% (Stats SA as cited in Bojanala Platinum

District Municipality, 2010). Women make up the majority of unemployed people (Bojanala Platinum District Municipality, 2010). The highest level of unemployment is for youth between 20 and 29 years old as 43.8% of people between 20 and 29 is regarded as unemployed (Bojanala Platinum District Municipality, 2010).

Although the primary sector activity of mining contributes to approximately 34% of all employment within the North West, there is a lack of employment opportunities beyond those offered by the mining sector (Bojanala Platinum District Municipality, 2010; North West Department of Agriculture, Conservation and Environment, 2008). Moreover, many of those working on the mines are migrant labourers rather than local residents – this, together with the casualisation of the workforce, adds to the unemployment problems amongst the local population (Bojanala Platinum District Municipality, 2010; Bench Marks, 2007). The Bench Marks Report (2007) notes that even in areas where mines claim to have a 100% local employment policy, unemployment in MKLM remains disproportionately high (Bench Marks, 2007).

Unemployment and therefore poverty in the region is further exacerbated as migration and urbanisation increase the population. This is mainly attributable to the attraction of work in the mines and partially due to land degradation and soil loss as a result of unsustainable land use practices as rural people who are no longer able to sustain themselves on their land migrate to find employment on the mines and surrounding towns (North West Department of Agriculture, Conservation and Environment, 2008).

**Table 24: Unemployment and affordability figures for Moses Kotane Local Municipality**

Area	% Economically active population unemployed	% Households earning less than R800/month
Moses Kotane LM	51.0%	59.8%

Source: Statistics SA, Census 2001 as cited in (Bojanala Platinum District Municipality, 2010).

Despite the mines in close proximity and existence of tourism ventures, 39.3% of all respondents were unemployed. Mines are the biggest employers with 20 individuals or 17.9% of respondents employed by the mines. This was followed by traders at 14.3% - from observation, these businesses are largely informal businesses, e.g. tuckshops, which generate marginal incomes. The third largest employment category was civil service with



close to 10% of all respondents employed by the State. Only 3 respondents or 2.7% said they were pensioners (many people receiving pension grants said they were unemployed).

**Table 25: Employment Status**

	N	Percentage
Unemployed	44	39.3
Domestic Worker	3	2.7
Miner	20	17.9
Farmer	1	.9
Trader	16	14.3
Student	1	.9
Civil Servant	11	9.8
Security	5	4.5
Driver	3	2.7
Corporate Employee	2	1.8
NGO staff	1	.9
Shebeen Owner	2	1.8
Pensioner	3	2.7
Total	112	100.0

Respondents were asked how they spent their time the previous day, who they were with and how they felt during this time. Using Stiglitz, Sen & Fitoussi's categories for how people spend their time, activities were categorised according to personal care (sleeping, eating and drinking); work (i.e. paid work, preparing for work and unpaid work like milking the cows); household production, i.e. time spent on housework, gardening, purchasing goods and services, caring for and helping household and non-household members and travel time related to all these activities; leisure includes spiritual activities, socialising, relaxing, napping and activities such as "sitting under a tree" and "making a turn at the tavern" (Stiglitz, Sen, & Fitoussi, 2009).

Although respondents conducted a large number of activities for personal care (308), almost equal amounts of activity were related to household production (118) and leisure (121). Stiglitz et al (2009) argue that if household production was valued using current labour wages, the economic importance of household production would be substantial and that income alone gives a false impression of living standards as many services that households

produce for themselves are not recognised in official income and production measures, yet they constitute an important aspect of economic activity (Stiglitz, Sen, & Fitoussi, 2009).

Most respondents tended to enjoy themselves while conducting their activities<sup>10</sup> during the previous day (250). Many respondents were happy (156) and tired (108). Only two respondents felt hassled or pushed around, while three felt angry and seven were worried or anxious. The majority of respondents were alone when conducting activities during the previous day (330), with their families (97) or with their children (35).

**Table 26: How respondents spend their time**

Activities	N
Personal Care	308
Work	86
Household production	118
Leisure	121

**Table 27: Emotions during previous day**

Feelings	N
Impatient for it to end	28
Happy	156
Frustrated/annoyed	10
Depressed	12
Competent/capable	44
Hassled/pushed around	2
Warm/friendly	43
Angry/hostile	3
Worried/anxious	7
Enjoying	250
Tired	108

<sup>10</sup> The majority of respondents carried out between six and twenty activities daily hence number of activities are higher than number of respondents.

**Table 28: Companions during previous day**

Companions	
Alone	330
Brother	1
Boyfriend	6
Child or Children	35
Colleagues	20
Cousin	4
Daughter	6
Family	97
Fiancé	1
Friends	17
Girlfriend	5
Grandchild	13
Grandparent	6
Helper	1
Husband	34
Members of Community	1
Mother	15
Neighbours	1
Nephew	4
Other Members of Church	1
Partner	1
Sister	1
Son	17
Tenants	1
Wife	15

The composite variable for occupational wellbeing has been derived from employment security, where on a scale of one to four where one is unemployment (41.5% of

respondents); two is for general workers (29.2% of respondents); three is for self-employed (16% of respondents) and four or the highest level of employment security is for those respondents employed by the state, corporate and NGO's (13.2%). No relationship between employment security and age or sex/ gender was found to exist.

**Table 29: Occupational Wellbeing Composite Variable**

	N	Percentage
Unemployed	44	41.5
Workers	31	29.2
Self-Employed	17	16.0
State, Corporate and NGO's	14	13.2
Total	106	100.0

With regards to occupational wellbeing, it is important to mention that few respondents are formally employed or enjoy a high level of job security. Over 30% of respondents are unemployed and this is likely to affect their subjective wellbeing. However, a substantial amount of time is spent on household production or chores e.g. laundry, childcare etc as measured by how respondents spend their time. Another noteworthy aspect that relates to social wellbeing is the number of activities respondents conducted for leisure.

#### **4.6. Social Wellbeing**

Social wellbeing is a concept closely related to social capital and, simply put, the concept centres around the premise that social ties have value (Chidester, Dexter, & James, 2003). Kotze & Steenkamp (2008) define social capital as the collective value of all social networks (who people know) and the inclinations that arise from these networks to do things for each other (norms of reciprocity). The key ingredients for social capital are trust, reciprocity, information, mutual support, cooperation and collective action (Chidester, Dexter, & James, 2003; Kotze & Steenkamp, 2008). Social capital is said to be crucial for economic development, is a key aspect of democracy and has various social benefits (Chidester, Dexter, & James, 2003).

Chidester, Dexter & James (2003) note that astonishing claims have been made about the benefits of social capital as an asset which can be owned, accumulated, and traded. However, they highlight the importance of social agency in realising any benefits from the social capital i.e. 'capable agency' is required (Chidester, Dexter, & James, 2003).

Social capital differs depending on the context: in government, social capital registers as social trust, in labour it registers as social livelihood, in business as social responsibility and in communities as social kinship (Chidester, Dexter, & James, 2003). For a community, social kinship is said to work in the same way as family relations, only outside of the family. These social networks or kinship are based on trust, sympathy and mutual obligation, allowing people to advance their common interests. These local networks of social kinship are frequently seen in voluntary associations, community-based organisations and social movements (Chidester, Dexter, & James, 2003).

When trying to determine social wellbeing and social capital in Lerome using the study sample, we found that 58% of all people surveyed participate in local events in their community. 30% do not participate and close to 12% said that no social events take place in their community. The average amount of time spent every year at social and cultural activities, including community events or neighbours celebrations, is between 6 and 12 days. However, close to 20% of people spent between one and five days at events, with a smaller percentage (17.6%) spending between 13 and 20 days at these social activities. 16 people spent more than 20 days at social and cultural activities. Despite 30% of people in the previous question saying that they do not participate in social events in their communities and 12% saying that no social events took place, only 27% of people said they did not attend any social and cultural activities.

When asked how important it was for respondents to participate in community gatherings, 58.5% felt it was important. This corresponds with the number of people who do attend local events. 23.7% felt that these were a little important, while only 14.4% felt these were not important at all. Three people did not know how important it was to participate in community gatherings.

**Table 30: Events Participation**

	N	Percent
Yes	69	58.0
No	36	30.3
No Events	14	11.8
Total	119	100.0

**Table 31: Number of days at events**

	N	Percent
None	32	26.9
1-5 days	23	19.3
6-12 Days	27	22.7
13-20 Days	21	17.6
More than 20 days	16	13.4
Total	119	100.0

**Table 32: Importance of event participation**

	Frequency	Percent
Important	69	58.5
Little Important	28	23.7
Not Important	17	14.4
D/K	4	3.4
Total	118	100.0

Study participants were asked whether the values of people in their community have changed over the last few years. Most participants believed that people's generosity has

stayed the same (73%), although close to 18% of participants believed that community members have become less generous. Again, the majority of respondents (63%) felt that community members have remained at the same level of compassion over the last few years, although 26% felt that people have become less compassionate, while 8% believe people have become more compassionate. Concern for material wealth does not seem to have increased according to participants as 56.8% believe it has stayed the same. 20% believe it has increased, while close to 13% did not seem to know whether their community members had changed their view/ values/ concerns regarding material wealth.

With regards to selfishness, on average participants felt that the majority of people in their community had stayed the same (45%), while 26% felt community members had become more selfish, and 17% felt they had become less selfish. 11% did not know how they felt about their community members and selfishness. The majority of people (48.7%) believed that the level of honesty in their community members had remained the same, although 36% believed people had become less honest. 1.7% believed people had become more honest and 13% didn't know.

With regards to spirituality, 56% of respondents believed that community members had neither become more or less spiritual but had stayed the same. 8% believed they had become more spiritual although 17.6% believed they had become less spiritual. The same percentage of participants did not know how spiritual members of their community were. The vast majority of participants felt that community members had not changed their levels of tolerance (64.7%) although close to 17% felt people had become more tolerant while close to 8% felt people had become less tolerant. 13 people, or 11%, did not know.

To summarise, on average:

- Generosity, stayed the same
- Compassion, stayed the same
- Concern about material wealth stayed the same
- Selfishness, stayed the same
- Honesty, stayed the same
- Spirituality, stayed the same
- Tolerance, stayed the same

When study participants were asked whether they had offered unpaid voluntary assistance to others, just more than half the study participants had given voluntary assistance during

the preceding 12 months. The kinds of voluntary assistance were largely labour contribution during times of death in a family (60 people); labour during community events in the village (41 people) followed by fundraising (30 people), taking care of people (29 respondents) and labour contributed during planting and harvesting (17 people). One respondent volunteered at a preschool, another worked on the ANC election campaign and another cleaned the church on a voluntary basis. The kind of assistance varied but it was largely to family members, school children and neighbours. Approximately 72% of those who had volunteered found the experience satisfying. 28% of these (or 21 people) had found their experience as a volunteer neither satisfying nor dissatisfying. No one found the experience dissatisfying.

Powdthavee (2007) notes that some studies find no relationship between volunteering and self-rated happiness or life satisfaction but it is hypothesised that happier people are more likely to do more voluntary work, which suggests that there may be a reverse causality that runs from SWB to volunteering work.

**Table 33: Unpaid Voluntary Assistance**

	Number of respondents	Percentage
Yes	67	56.3%
No	52	43.7%
Total	119	100%

**Table 34: Kinds of Voluntary Assistance**

	N
Labour contributed to building/renovation of religious building	8
Labour contributed to house building/renovation	14
Labour to house repair	5
labour during community events in village	41
Labour contribution during times of death in family	60
Labour contribution during planting and harvesting	17
Fund-raising	30
Teaching	14
Taking care of people	29
other	4



When asked “How would you describe your sense of belonging to your local community? Would you say it is very strong, somewhat strong, weak or don’t know?” on average respondents felt that their belonging was somewhat strong with a score of 44.5%. 29% felt their belonging was very strong while 19% felt their sense of belonging was weak. 7% of participants did not know what their sense of belonging in the local community was.

Although the majority of respondents had a strong or somewhat strong sense of belonging, 24% of respondents felt that the people in the community rarely or never treated them fairly. Conversely, 73% of people felt that they were always or sometimes treated fairly by the community.

**Table 35: Fair Treatment within Community**

	N	Percentage
Always	32	26.9%
Sometimes	55	46.2%
Rarely	24	20.2%
Never	4	3.4%
Don't Know	4	3.4%
	119	100%

With regards to trusting people in general and trusting neighbours an interesting finding was that respondents seem to have higher levels of trust in people in general (47.9% trust some or most) than in their neighbours (42.8% trust some or most), and a higher percentage do not trust their neighbours at all (15.1% trust none of them) than people in general (12.6% trust none of them) i.e. respondents trust neighbours less than people in general.

**Table 36: Levels of Trust**

	Trust most of them	Trust some of them	Trust a few of them	Trust none of them	Don't Know	Total
Trust people in general	6.7%	41.2%	39.5%	12.6%		100%
Trust neighbours	15.1%	27.7%	41.2%	15.1%	0.8%	100%

Despite participants noting that 71% of neighbours in their community assist one another, only 43% of respondents had exchanged labour with any community members during the past 12 months. The remaining 68 people or 57% had not exchanged labour with any community members during the past 12 months.

**Table 37: Assistance to Neighbours**

	N	Percentage
Always	20	16.9%
Sometimes	64	54.2%
Rarely	22	18.6%
Never	8	6.8%
Don't Know	4	3.4%
Total	118	100%

**Table 38: Labour Exchange during past 12 months**

	N	Percentage
Yes	51	42.9%
No	68	57.1%
Total	119	100%

The majority of respondents socialise with their neighbours a few times a month (33.1%), although just over a quarter of respondents had not socialised with their neighbours in the last month (26.3%). Although a few respondents said they did not have friends, most respondents had socialised with their friends a few times per week (44.7%). Socialising with relatives who did not live with respondents was spread relatively evenly: while most (29%) socialised once a month, 26% socialised a few times per week and 24% socialised a few times a month. 18% of respondents had not socialised with relatives who lived outside of their homes in the last month.

Studies investigating the link between SWB and social relationships have concluded that, overall, socialising with family, friends, and neighbours is positively associated with SWB. One explanation for this positive correlation is that SWB tends to increase with the number of people to support individuals, especially with regards to availability for discussing important matters.

**Table 39: Socialising and Social Networks**

	Few times per week	Few times a month	Once a month	Not in last month	Don't know
Neighbours	21.2%	33.1%	19.5%	26.3%	0%
Friends	44.7%	28.9%	12.3%	11.4%	0%
Relatives (outside of the people you live with)	26.1%	24.4%	29.4%	18.5%	1.7%

When asked about family dynamics and interaction, respondents largely agreed that the members of their family care about one another (68.9%) and that their families are real sources of comfort to them (74.6%). They also felt that they have enough time to spend with their families (64.4%). Most respondents disagreed with the statements that “You wish you were not part of your family”(78.2%) and “You feel like a stranger in your family” (86.4%). Two statements regarding family dynamics that respondents tended to agree with to a lesser extent were “Members of your family argue too much” (54.2% disagreed while 35.6% felt neutral about the statement) and “There is a lot of understanding in your family” (57.6% agreed while 33.1% had neutral responses). This relates back to stress respondents had regarding communication within their families.

**Table 40: Family Dynamics and Interaction**

	Disagree	Neutral	Agree
The members of your family really care about each other.	9.2%	21.8%	68.9%
You wish you were not part of your family	78.2%	12.6%	9.2%
Members of your family argue too much	54.2%	35.6%	10.2%
You feel like a stranger in your family	86.4%	7.6%	5.9%
You have enough time to spend with your family	12.7%	22.9%	64.4%
There is a lot of understanding in your family	9.3%	33.1%	57.6%
Your family is a real source of comfort to you.	9.3%	16.1%	74.6%

Another aspect of social wellbeing is related to culture, traditions and heritage. The North West Environmental Outlook Report (2008) notes that heritage “...nurtures, identifies, provides knowledge and inspiration, and is the basis of our cultural life...”. The report goes on to say that the province has a rich heritage with a number of important natural and

cultural heritage resources. These include tangible resources like archaeological sites, graves and battle sites; as well as intangible resources like oral history, traditional knowledge and folklore (North West Department of Agriculture, Conservation and Environment, 2008). Although heritage is the basis for cultural life, it also has an educational and economic role. Education can bring social upliftment to communities and tourism can provide vital jobs and income, contributing to development and the preservation of the environment and to heritage resources themselves, especially in rural communities (North West Department of Agriculture, Conservation and Environment, 2008; Bojanala Platinum District Municipality, 2010).

The report identified issues which impact on heritage resources such as a lack of heritage knowledge and skills; neglect of heritage sites, facilities and buildings; competition from other forms of entertainment; and the safety and security of visitors at heritage sites (North West Department of Agriculture, Conservation and Environment, 2008).

The Bakgatla-Ba-Kgafela have established the Mphebatho Cultural Museum in Moruleng as tribal leaders wanted to preserve their history and cultural practices. The museum's by-line is "Culture Our Heritage". Furthermore, Pilanesberg National Park, although it is primarily a natural heritage resource, also has many cultural and traditional areas or places connected to the history of the Bakgatla, such as initiation cleansing sites and schools, execution sites and sacred hills (North West Department of Agriculture, Conservation and Environment, 2008).

When asked how important maintaining traditions within everyday life was to respondents the responses were as follows: for 23 people maintaining traditions were not important, for the majority of people (80) maintaining traditions were important and for 13 people these were very important. Three people did not know how important it is to maintain traditions within everyday life. The report noted that a negative impact on heritage resources can be caused by a the lack of local knowledge and skills, however study respondents felt their own knowledge and understanding of traditional songs, dances, folktales or crafts was average. 22.7% felt their knowledge was good while 19.3% felt it was poor.

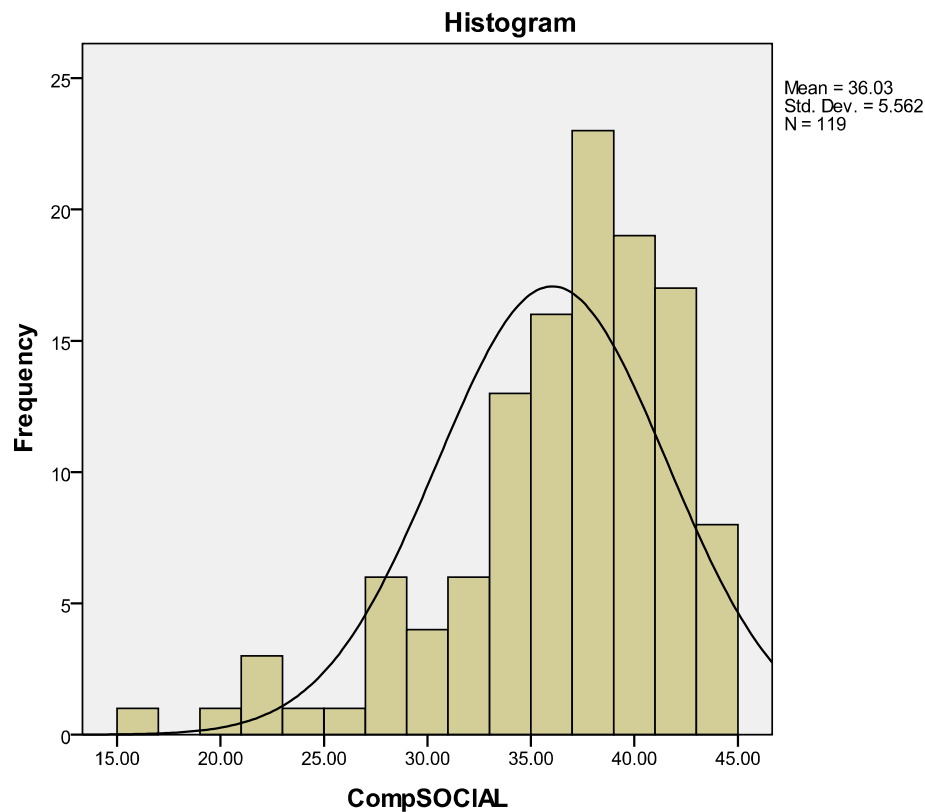
**Table 41: Importance of maintaining traditions within everyday life**

	Frequency	Percent
Not Important	23	19.3
Important	80	67.2
Very Important	13	10.9
D/K	3	2.5
Total	119	100.0

**Table 42: Knowledge of traditions**

	Frequency	Percentage
Good	27	22.7
Average	69	58.0
Poor	23	19.3
Total	119	100.0

The social composite variable has comprised the variables regarding support when ill and needing assistance with problems, time spent attending community events, levels of trust of people in general, frequency of socialising and family support and relationships. This composite variable is relative, however, with a higher score indicating a higher level of social capital or social wellbeing (scores were reversed when necessary). The average or mean score for the social wellbeing composite variable is 36.03, although the majority of respondents (23 people) scored 37.5 with the highest score being 45. These scores are neither related to age nor sex.

**Figure 5: Social Wellbeing composite variable**

Respondents generally have a high level of social wellbeing as they socialise frequently, the majority attend community events and have a sense of belonging in the community. Families offer crucial support and comfort to respondents. However, social wellbeing could be improved if greater levels of trust were fostered amongst Bakgatla.

#### **4.7. Mental Wellbeing**

The South African Stress and Health (SASH) study found that in South Africa, the lifetime prevalence for any mental disorder was 30.3%; while 11.2% of the SASH study respondents had two or more lifetime disorders (Herman, Stein, Seedat, Heeringa, Moomal, & Williams, 2009). The most prevalent individual lifetime disorder was alcohol abuse (11.4%) followed by major depressive disorders (9.8%) (Herman, Stein, Seedat, Heeringa, Moomal, & Williams, 2009).

In general, the SASH study found that rural provinces have lower rates of common mental disorders (Herman, Stein, Seedat, Heeringa, Moomal, & Williams, 2009). However, the North West Province does not fit this pattern. Significant differences in lifetime prevalence of mental disorders occurred across the nine provinces, with the NW having the fourth highest rate at 34%. The mood disorders in the NW were slightly lower than seven other provinces, but substance use was very high and the second highest in South Africa. Mental disorders

have a significant negative social and economic impact on society, especially alcohol abuse which results in health and medical expenses, lost productivity, violence and crime (Health24, 2009). Human costs such as emotional suffering, marital disruption, and family breakdown are also the result of mental disorders (Health24, 2009).

**Table 43: Table Provincial lifetime prevalence estimates (%) of mental health disorders by province**

Specific disorders (grouped)						
Province	All disorders	Anxiety	Mood	Substance Use	Impulse	Sample Size (N)
Western Cape	39.4*	18.9	13.7	20.6*	4.5*	448
Free State	37.5	21.5*	14.6*	15.5	3.3	421
North West	34.0	17.2	8.1	16.2	1.7	453
Limpopo	30.8	16.3	6.3*	13.5	2.6	420
KwaZulu-Natal	28.0	12.9	9.0	12.8	2.1	749
Gauteng	29.8	15.7	10.2	12.3	5.4*	593
Mpumalanga	29.2	16.0	9.0	9.1	0.1*	415
Eastern Cape	25.7	13.3	8.3	8.5*	1.1	619
Northern Cape	28.7	15.0	7.7	13.8	3.8*	233
South Africa	30.8	15.8	9.7	13.3	3.0	4351
* $p < 0.05$ in contrasting province with South Africa as a whole.						

To gauge emotions, study respondents were asked how often they had felt a number of emotions over the past four weeks. Possible responses were often (1), sometimes (2) and never (3). On average, the emotions most often experienced by respondents were generosity, forgiveness, empathy and calmness, while the emotion least often or never experienced was jealousy. Selfishness, pride and guilt were experienced less frequently. Anger, disappointment, sadness and frustration were sometimes experienced. In addition to the emotions detailed here, two respondents often felt pressure and one, pitiful.

**Table 44: Emotions**

	N	Mean
	Valid	
Generosity	117	1.5
Forgiveness	118	1.51
Empathy/ Compassion	118	1.55
Calmness	118	1.56
Contentment	118	1.58
Sadness	117	1.79
Anger	119	1.82
Disappointment	118	1.84
Frustration	118	1.93
Guilt	118	2.34
Pride	118	2.57
Selfishness	118	2.59
Jealousy	117	2.6

Stress, particularly chronic stress has an impact on mental health and wellbeing (The American Institute for Stress, 2009). Sources of stress may vary, depending on life situations but stress levels have increased dramatically. The consequences of chronic stress vary and include substance abuse and other unhealthy life style habits, social isolation and the breakdown of families (The American Institute for Stress, 2009). Self-reported stress levels experienced by respondents over the past year were as follows: 13.6% of the sample or 16 people felt very stressed; 65.3% or 77 people were somewhat stressed; 24 people, or 20.3% of the sample, had not experienced any stress over the year and one person did not know how stressed he was.

Those respondents who were 'very or somewhat' stressed (78.8% in total) identified a number of sources of stress. The more common reasons were unemployment and insufficient money for food, house repairs and college fees, and financially unsuccessful businesses. More than one respondent cited their inability to pay the *stokvel*<sup>11</sup> on time as a stressor. Another respondent felt stressed about a lack of money for alcohol.

---

<sup>11</sup> A Stokvel is defined as a club or syndicate serving as rotating credit union where members contribute fixed sums of money to a central fund on a weekly, fortnightly or monthly basis.



Common stressors included family relationships and communication issues, especially “disobedient children”, as well as lack of family members as a means of support (“Not having a mother”) or the need for children to take care of their siblings. More than one respondent felt unhappy with their relationship with their spouse and described the stressors as “husband had affairs outside our marriage”, “drinking problem of my husband” and “we don't get along me and my husband, our lives are just standing one place, there's no progress at all” and the occurrence of “yelling and shouting”.

Loss of loved ones or death in families was likewise one of the more common stressors e.g. “My uncle burned in a shack”; “Lost a father and a brother” and “losing my mother and my child”. Ill-health also resulted in increased stress for respondents. Some of the less common stressors included:

- “Learners: if they can't listen and I am supposed to keep the pass rate high always” (career stress for educator respondent)
- House break ins
- Failing at college
- Needing help with housework chores
- Stock theft
- “Had an accident with my car so I had to take it for repair, I only had minor injuries but I was shocked, big time.”

**Table 45: Stress**

	N	Percentage	Cumulative Percentage
Very	16	13.6	13.6
Somewhat	77	65.3	78.8
Not at All	24	20.3	99.2
Don't Know	1	.8	100.0
Total	118	100.0	

Respondents were asked a number of questions relating to their mental health, stress and their personal outlook in the four weeks prior to the questionnaire. When asked if participants were able to “concentrate on what they're doing, if they felt as if they were playing a useful part in things, felt capable of making decisions about things or whether they had been able to enjoy their normal day-to-day activities”, on average, they felt they were

able to do this 'the same as usual'. However, respondents tended to feel they were constantly under strain, 'slightly less than usual'. Most people felt 'more than usual' that they had been feeling reasonably happy, all things considered. Most people also felt as if they had been able to enjoy their normal day to day activities 'more than usual'.

**Table 46: Mental Health, Stress and Personal Outlook**

	Number of respondents	Mean
Been able to concentrate on what you're doing	118	2.08
Felt you were playing a useful part in things	118	2.08
Felt capable of making decisions about things	117	2.00
Felt constantly under strain	116	2.34
Been able to enjoy your normal day to day activities	116	1.97
Been able to face up to your problems	117	1.80
Been feeling reasonably happy all things considered	118	1.69

When candidates were asked whether they had lost much sleep over worry, on average they responded 'no more than usual'. Participants also felt 'no more than usual' that they couldn't overcome their difficulties or that they were unhappy and depressed. On average, respondents did not at all feel as if they were worthless people and on average they had not lost any confidence in themselves.

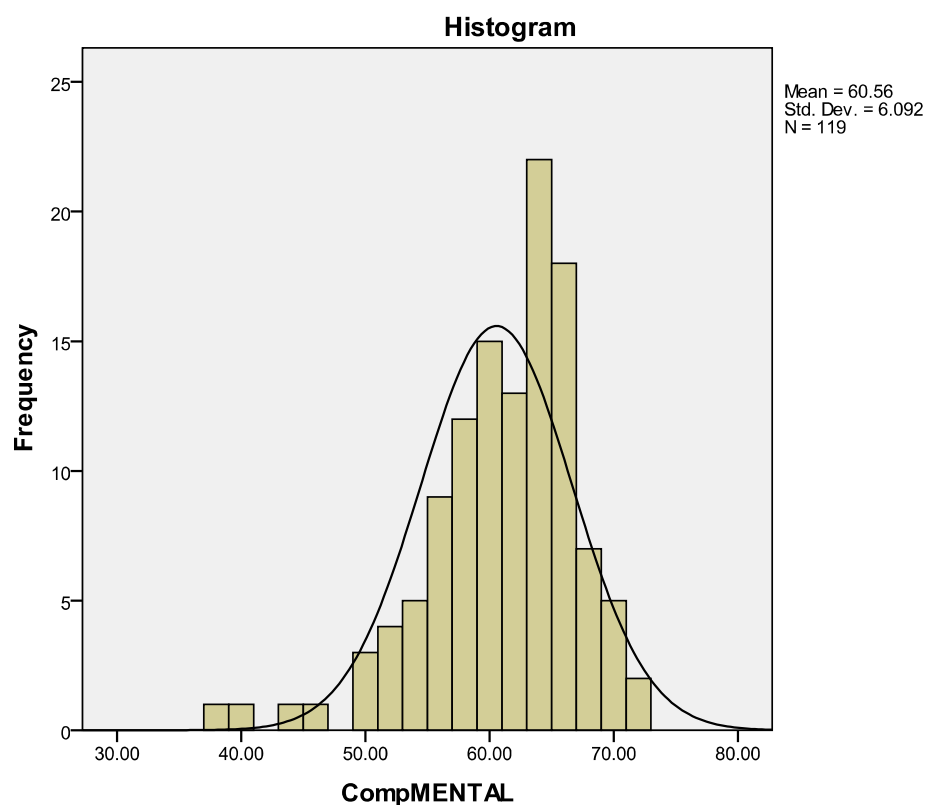
In 2007, WHO calculated the prevalence of suicide in South Africa per 100 000 people at 1.4 for men and 0.4 for women (World Health Organisation, 2007). In 2011, Professor Schlebusch reported that approximately six to eight thousand people commit suicide in South Africa annually, making suicide the third greatest cause of unnatural death in the country after homicide and unintentional causes (Health24, 2009). Suicide in young people, especially black youth, in South Africa is almost as high as adult suicide rates. This is attributed to the demands to succeed educationally and socio-economically, and because of high unemployment rates and expectations not being met (Health24, 2009). When asked if

Bakgatla study participants had ever seriously thought of committing suicide, an alarming 11 per cent or 13 people had thought of committing suicide.

In terms of support systems or networks, respondents were asked if they had someone to help them when they were sick. 3.4% of people did not have support when they were sick and 40.3% had some support when they were sick. The majority of people (56.3%) felt they had support when they were sick. However, respondents tended to have less support with decision-making and emotional support than when sick: 10% of participants had no support available if they had problems; 41.2% had support some of the time and 48.7% had someone to help them with problems most or all of the time.

The mental wellbeing composite variable has been calculated using emotional resilience, levels of stress, the impact of stress or personal outlook and whether suicide had ever been considered. Commensurate with the physical wellbeing composite variable, the higher the score, the more positive the state of mental health. The average score was 60.56 with the highest number of respondents scoring 64. The Mental Wellbeing composite variable relates to gender as men tend to score higher than women (significant at  $p > 0.05$ ).

**Figure 6: Mental Wellbeing Composite Variable Histogram**



**Table 47: Average Mental Wellbeing Composite Variable and Sex**

Mean	
Sex	CompMENTAL
Male	62.4286
Female	59.7857
Total	60.5630

Significant factors to note concerning mental wellbeing is that respondents suffer from relatively high levels of stress and over 10% of respondents had considered suicide. Furthermore, just over half the respondents did not feel supported most of the time. Substance abuse, which affects mental wellbeing, is explored under physical wellbeing.

#### **4.8. Spiritual Wellbeing**

Chidester, Dexter & James (2003) note that before 2003, social trust had not been invested in the state but that South Africans had invested their social capital, social trust and social allegiances in transnational religious networks, which promise greater returns on their social trust than the state can deliver (Chidester, Dexter, & James, 2003). In a study conducted by Kotze & Steenekamp in 2008, they found that the South African public tend to place their highest levels of confidence in the church (84.2%). Furthermore, one perspective of sustainable development highlights a spiritual view that honours the Earth and non-human beings hence the importance of the spiritual wellbeing dimension for subjective wellbeing.

It is interesting to note that with the sample of Bakgatla interviewed, there is a high level of diversity in their religious affiliations. The majority of respondents belong to the charismatic 'born-again' churches (23.5%) followed by 17.6% of respondents who are Zionists while there was only one Muslim respondent. Only seven of the 118 respondents have no religious affiliation.

**Table 48: Religious Affiliation**

	N	Percentage
None	7	5.9%
Zionist	21	17.6%
Catholic	7	5.9%
Lutheran	11	9.2%
Pentecostal	5	4.2%
Anglican	7	5.9%
Methodist	9	7.6%
Born-again	28	23.5%
NG Church	9	7.6%
Uniting Reform	9	7.6%
Old Apostolic	5	4.2%
Muslim	1	0.8%
Total	119	100%

When asked how spiritual participants in the study considered themselves to be, the majority (61.3%) said they were moderately spiritual and seven people were not at all spiritual, corresponding with the seven people who do not have a religion affiliation. Study participants were asked how frequently they pray. Half of the respondents pray daily (50%), just over 46% pray occasionally and four of the 118 respondents or 3.4% never pray – despite seven respondents not being at all spiritual.

When asked how frequently study participants attend church or other places of spiritual significance, the vast majority attend occasionally (85.7%), six people attend church daily and 11 people never go to church or places of spiritual significance. Just over half of the respondents occasionally discuss spiritual issues with their children (53.4%), 8.6% discuss spiritual issues daily with their children 14.7% never discuss spiritual issues with their children.

**Table 49: Spirituality**

	N	Percentage
Very	39	32.8%
Moderately	73	61.3%
Not at all	7	5.9%
Total	119	100%

**Table 50: Frequency of Praying**

	N	Percentage
Daily	59	50%
Occasionally	55	46.6%
Never	4	3.4%
Total	118	100%

**Table 51: Frequency of Attendance at Places of Spiritual Significance**

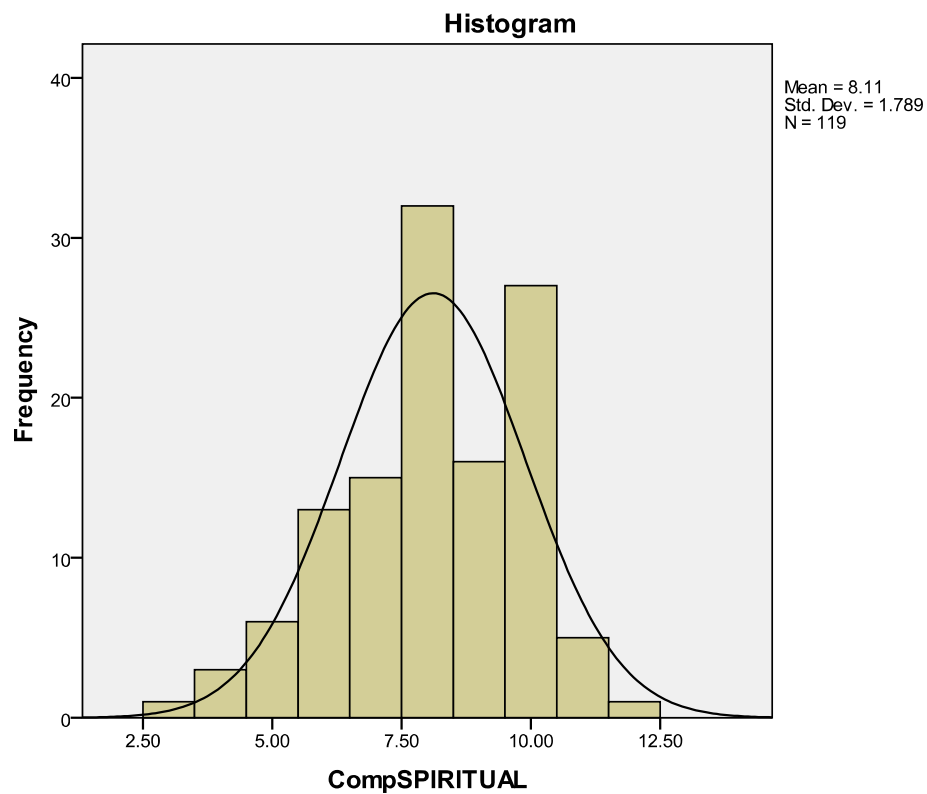
	N	Percentage
Daily	6	5.0%
Occasionally	102	85.7%
Not at all	11	9.2%
Total	119	100%

**Table 52: Frequency of Discussion of Spiritual Issues with Children**

	N	Percentage
Daily	10	8.6%
Occasionally	62	53.4%
Not at all	17	14.7%
Not a parent	27	23.3%
Total	119	100%

The Spiritual Composite variable is composed of the sum of questions regarding how spiritual respondents consider themselves, whether respondents pray, attend spiritually significant places and whether or not they discuss spiritual issues with their children. Both the mean and the mode are 8.11. In this study females have significantly higher levels of spiritual wellbeing than males (8.57 versus 7), while older people are significantly more spiritual than younger people (0.289).

**Figure 7: Histogram of Spiritual Wellbeing Composite Variable**



**Table 53: Spiritual Wellbeing Composite and Gender**

Mean	
Sex	CompSPIRITUAL
Male	7.0000
Female	8.5714
Total	8.1092

**Table 54: Correlation between Spiritual Wellbeing and Age**

		Age	CompSPIRITUAL
Age	Pearson Correlation	1	.289**
	Sig. (2-tailed)		.002
	N	117	117
CompSPIRITUAL	Pearson Correlation	.289**	1
	Sig. (2-tailed)	.002	
	N	117	119
**. Correlation is significant at the 0.01 level (2-tailed).			

It is notable that high levels of diversity in religious affiliation exist amongst the Bakgatla. The majority of respondents were moderately spiritual, although females have significantly higher levels of spiritual wellbeing than males, while older people are significantly more spiritual than younger people.

#### 4.9. Physical Wellbeing

The National Planning Commission identified the ailing public health system as a major challenge for South Africa especially as it is faced with a massive disease burden (HIV/AIDS) (SA National Planning Commission, 2011). This is evidenced by low life expectancy and high infant mortality in SA (SA National Planning Commission, 2011). The declining quality of the health system is compounded by the lack of health care facilities and infrastructure - the infrastructure for health facilities within the local municipality is documented in the table below.

**Table 55: Health facilities in Moses Kotane Local Municipality and BPDM**

Institution	Provincial Hospital	District Hospital	Health Centres	Clinics	24hr Clinics	Mobile
Moses Kotane	-	1	1	50	12	4
Total	1	3	7	112	27	19

Source: Department of Health, North West Province

The Bench Marks Report (2007) further highlights health concerns within communities living and working in close proximity to mines and to smelters: not only do miners sustain injuries at work but health costs such as increased respiratory diseases (including TB), HIV and AIDS, and other sexually transmitted diseases affect communities (Bench Marks, 2007). These health costs are exacerbated by living conditions in informal settlements where reliance on coal fires for cooking and heating, and the dust from waste sites increase respiratory diseases (Bench Marks, 2007). Higher HIV/AIDS infection rates around the platinum mining regions in Rustenburg are attributed to factors such as migrant labour to the mines and high female unemployment in the region which results in women turning to sex-work as a source of income (Bench Marks, 2007).

Over and above communicable diseases, the World Health Organisation published a report in 2011, documenting the increase in noncommunicable disease (NCD) burden, which affects people of lower social and economic positions (these in turn are largely determined by education, income, occupation and gender) (World Health Organisation, 2011). NCDs are



comprised mainly of cardiovascular diseases, cancers, diabetes and chronic lung diseases (World Health Organisation, 2011).

There are four factors or behaviours that are causally linked to NCDs, viz. tobacco use, physical inactivity, unhealthy diet and the harmful use of alcohol (World Health Organisation, 2011). Both direct and second-hand smoke lead to the global amount of almost six million deaths annually (World Health Organisation, 2011). Almost 4% of deaths worldwide are caused by harmful use of alcohol (World Health Organisation, 2011). WHO (2011) notes that regular physical activity<sup>12</sup> reduces the risk of cardiovascular disease including high blood pressure, diabetes, breast and colon cancer, and depression (World Health Organisation, 2011). Finally, inadequate consumption of fruit and vegetables increases the risk for cardiovascular diseases, stomach cancer and colorectal cancer. Approximately 1.7 million (2.8%) of deaths worldwide are attributable to low fruit and vegetable consumption (World Health Organisation, 2011). The behaviours that are causally linked to NCDs lead to metabolic diseases such as obesity and cancer (World Health Organisation, 2011).

The costs to health-care systems from NCDs are high and projected to increase. Significant costs to individuals, families, businesses, governments and health systems add up to major macroeconomic impacts. Economic analysis suggests that each 10% rise in NCDs is associated with 0.5% lower rates of annual economic growth (World Health Organisation, 2011). For all these reasons, NCDs deliver a double blow to progress. They cause billions of dollars in losses of national income, and they push millions of people below the poverty line every year because most medical expenditure is covered through out-of-pocket payments (World Health Organisation, 2011).

This study investigated a variety of aspects of physical wellbeing including self-reported health, tobacco use, physical activity, diet and body mass index. When participants were asked about their current health status, 24.4% said their health was excellent or very good; 59.7% said their health was good and 16% said they had poor health. 22.7% of all participants suffer from long-term disabilities or illnesses. 70% of all participants had not been ill or injured at all over the previous month, but of those 36 participants who had been ill, they had been ill or injured for an average of 7.55 days. The averages were skewed by three respondents who had been ill for the entire preceding month; in comparison, the majority of respondents had only been ill for two days or less.

---

<sup>12</sup> At least 30 minutes of moderate intensity physical activity on most days of the week.

61% of respondents had not been to the hospital or clinic, besides for family planning, over the past 12 months – this amount is slightly lower than the number of people who do not suffer from long-term illnesses or disabilities.

Body Mass Index or BMI is calculated using respondents' height and weight and is a measure of human body fat. The WHO regard a BMI of less than 18.5 as underweight and may indicate malnutrition or other health problems, while a BMI greater than 25 is considered overweight and above 30 is considered obese. Not all participants chose to respond to these questions, therefore only 109 participants were analysed. The lowest BMI is 12.47 (severely underweight) while the highest is 48.89. 5.5% of respondents were underweight and only 30 per cent of study participants have normal BMI's (between 18.5 and 24.9). The vast majority of participants are overweight (29.4%) or obese (34.9%) – a cumulative amount of 64 %.

**Table 56: BMI and Weight Status**

BMI	Weight Status	N	%
Below 18.5	Underweight	6	5.5%
18.5 -24.9	Normal	33	30.3%
25 - 29.9	Overweight	32	29.4%
30 & Above	Obese	38	34.9%
		109	100%

As noted in the WHO report (2007) physical activity is a key to reducing the risk of NCDs and chronic diseases. Respondents were asked how regularly they had exercised for more than 25 minutes at a time over the past 12 months. Approximately 15% of respondents have exercised more than once a week, however 66% had not participated in any exercise over the preceding year.

**Table 57: Physical Activity**

	N	Percentage	Cumulative %
More than once a week	12	14.8	14.8
Once or twice a month	9	11.1	25.9
Few times a year	6	7.4	33.3
Never	54	66.7	100.0
Total	81	100.0	

Altman (2010) notes that food and nutrition security are crucial, often influencing the effectiveness of other development interventions. Household hunger is said to have decreased since 2001 (largely due to the expansion of social grants) but this may be due to an increase in carbohydrates which tend to make people feel full. The National Food Consumption Survey (NFCS, 2005) found that only 20% of the SA population are food secure or are able to afford a minimum nutritionally adequate diet. As further evidence to nutritional security, the average South African consumes less than four out of nine food groups and has low micronutrient levels (Altman, 2010).

When asked how often participants eat the following foods, optional responses were 'never, once a week, once a day and two to five times per day' Respondents' diets were found to be lacking in fruit and vegetables as almost 88% of respondents do not eat these more than once a day. Study participants are also likely to eat insufficient calcium and too much animal protein as over 50% do not eat milk products more than once a week while almost 80% eat meat between one and five times per day. Respondents are likely to have diets high in processed carbohydrates – Altman (2010) confirms that many poor households mainly consume low nutrient starches to feel satiated, however a high prevalence of under-nutrition remains (Altman, 2010).

In order to establish levels of food security, when respondents were asked whether they had skipped meals in the past 12 months because there was not enough money for food, almost 35% had skipped meals in the past month and just over 65% had not skipped meals. This happened almost once a month for 20%, some months but not every month for 68%, and in only one or two months over the last year for 12%.

Responses are documented in the tables below:

**Table 58: Nutrition and diets**

	Never	Once a week	Once a day	Two- five times a day
Fruit and vegetables	4.2%	61.3%	22.7%	11.8%
Fatty foods	12.6%	58.8%	14.3%	14.3%
Animal protein	0	20.2%	52.1%	27.1%
Milk products	12.7%	38.1%	33.1%	16.1%

**Table 59: Food Security and Skipping Meals**

	N	Percentage
yes	41	34.5
No	78	65.5
Total	119	100.0

**Table 60: Frequency of Skipping Meals**

	N	%
Almost once a month	7	17.1%
Some months but not every month	29	70.7%
only one or two months	5	12.2%
Total	41	100.0%

In the 12 months prior to the survey, 56 respondents had used alcohol, 21 report smoking and 16 people used tobacco or snuff. Only one respondent reported using dagga. Seven of the 56 respondents report that they drink alcohol daily while the remaining 49 drink alcohol occasionally. Furthermore, the South African Stress and Health (SASH) study shows that the NW has the third highest level of substance abuse in South Africa (Herman, Stein, Seedat, Heeringa, Moomal, & Williams, 2009). A relatively low likelihood of second-hand smoke exists in respondents' households as only 5% of respondents have a member of the household who smokes regularly inside the house.

**Table 61: Substance Use during the past 12 months**

	Alcohol		Cigarettes		Tobacco/ Snuff		Dagga		Other drugs	
	N	%	N	%	N	%	N	%	N	%
Yes	56	47.5%	21	17.8%	16	13.6%	1	0.8%	0	0.0%
No	62	52.5%	97	82.2%	102	86.4%	117	99.2%	116	100.0%
Total	118	100.0%	118	100.0%	118	100.0%	118	100.0%	116	100.0%

**Table 62: Smoking inside Households**

	Frequenc y	Valid Percent
Yes	6	5.0
No	113	95.0
Total	119	100.0

A composite variable for physical wellbeing has been calculated using the data from the questions on number of healthy days and visits to the clinic, BMI, physical activity, food security and nutrition, substance usage and second-hand smoke in households. Values were assigned to each variable with desirable responses being assigned a one. Thus, Composite Health is the sum of a number of variables all equally weighted - the higher the score, the healthier the respondent, with the highest possible score being seven. Most respondents score four or less in the composite variable “Physical Wellbeing” (89.0%), with the majority of respondents scoring three. Only three people scored six out of a possible seven and no respondents scored seven.

**Table 63: Composite Physical Wellbeing**

	Frequency	Percent	Cumulative %
1.00	10	8.5	8.5
2.00	25	21.2	29.7
3.00	44	37.3	66.9
4.00	26	22.0	89.0
5.00	10	8.5	97.5
6.00	3	2.5	100.0
Total	118	100.0	

It is noteworthy that participants’ self- reported health is strongly related to the composite physical wellbeing variable - those respondents who reported their health to be “excellent” or “good” scored means of 3.5 and 3.2 on the Composite Physical Health measure respectively, which is significantly higher than the mean of 2.1 those who reported to be in “poor” health.

**Table 64: Composite Physical Wellbeing**

Health	Mean	N
Excellent	3.5	29
Good	3.2	71
Poor	2.1	19
Total	3.1	119

F significant at 1% level.

Age and the Composite Physical Wellbeing measure is significantly negatively correlated (-0.204) i.e. the older respondents are, the less healthy they are. Also interesting is the significant differences in the average ages of those who reported Excellent (average age 34.4), Good (average age 41.2) and Poor Health (average age 58.7).

**Table 65: Correlation between Physical Wellbeing Composite Variable and Age**

		Age	CompPHYSICAL
Age	Pearson Correlation	1	-.204 <sup>*</sup>
	Sig. (2-tailed)		.028
	N	117	116
CompPHYSICAL	Pearson Correlation	-.204 <sup>*</sup>	1
	Sig. (2-tailed)	.028	
	N	116	118
*. Correlation is significant at the 0.05 level (2-tailed).			

**Table 66: Physical Wellbeing and Age**

Mean	
Health	Age
Excellent	34.4
Good	41.2
Poor	58.7
Total	42.2

Respondents largely have average to poor physical wellbeing despite almost 60% reporting good health (self-reported). This is due to low levels of physical exercise, poor nutrition and being overweight. The likelihood of NCDs in the future is high resulting in the need for more health care services and reducing potential economic growth. Poor physical wellbeing appears to increase with age.

#### 4.10. Environmental Wellbeing

Environmental wellbeing, or a feeling of connectedness with the environment, is said to be crucial to happiness and therefore a number of questions were posed to respondents to gauge their environmental wellbeing. However, it is important to understand the context with regards to the environment within Lerome and its surrounding areas:

The Bojanala Platinum District is the densest and fastest urbanising District in the Province (North West Department of Agriculture, Conservation and Environment, 2008). Subsequently, increasing urban growth has added to human settlement problems (Bench Marks, 2007; North West Department of Agriculture, Conservation and Environment, 2008). To support their existence human settlements require basic infrastructure such as household access to potable water, sanitation, electricity for lighting, cooking and heating, transport and adequate roads and refuse removal. Human settlements are associated with consumption of resources and wasteful outputs into the environment. Subsequently, the impact of human settlement, particularly where unplanned and unfocussed development places pressure on natural resources, results in pollution which in turn has implications for human health (North West Department of Agriculture, Conservation and Environment, 2008).

The Bojanala Water & Sanitation Backlog study indicates that 86% of households in MKLM have access to a minimum RDP standard potable water service, which is higher than the figure for 83% of households in the entire District Municipality (Bojanala Platinum District Municipality, 2010). Furthermore, by 2007, no households obtained water from streams, dams and pools within the Bojanala Platinum District (Bojanala Platinum District Municipality, 2010).

**Table 67: Number of un-serviced Households for MKLM**

Local municipality	Total number of households	Backlog -Water supply (Number of Households)		
		Below RDP	On RDP (200m)	Above RDP
Moses Kotane LM	83236	11828	48625	22783
TOTAL for BPDM	362449	60327	115507	186615

Source: Bojanala Water & Sanitation Backlog study, 2008

The BPDM has the lowest level of RDP standard sanitation service within the North West Province with the largest backlog in Moses Kotane (74237 households) (Bojanala Platinum District Municipality, 2010).

**Table 68: Number of un-serviced Households in Moses Kotane Local Municipality**

Local municipality	Total number of households	Backlog (Sanitation)		
		Below RDP	RDP VIP Toilets	Above RDP
Moses Kotane LM	83236	74237	3012	5987
Total for BPDM	362449	226477	26162	109645

Source: Bojanala Water & Sanitation Backlog study, 2008

With regards to waste management, domestic waste generated by members of local municipalities exceeds the amount of waste collected by the different municipalities within the BPDM. The municipalities collect less than half of the domestic and garden waste generated by the population (Bojanala Platinum District Municipality, 2010). Consequently, people burn, or discard their waste at illegal communal dumps and holes in the ground or bury it (Bojanala Platinum District Municipality, 2010). Health and environmental threats arise as a result of this.

**Table 69: Distribution of households by type of refuse disposal per Moses Kotane local municipality**

	Census 2001	Community Survey 2007
Removed by local authority/private company at least once a week	7,7	90,5
less often	0,4	1,1
Communal refuse dump	1,5	0,5
Own refuse dump	81,3	6,6
No rubbish disposal	9,1	1,3
Other	-	0,1
Total	100	100

Source: Community Survey Report: 2007

When respondents were asked about household waste and waste disposal, a high percentage (29.7%) did not know whether household waste had increased compared to the previous year although 41.5% said it had not increased. When asked whether households sort tins and plastic for re-use or recycling, over half of the households never sort waste with only 4.3% always sorting their waste. Waste disposal statistics from respondents are similar



to the findings of the Bojanala IDP as only 55% of all respondents have their waste removed by the municipality. Five respondents dump their waste in rivers or streams or in the open veldt. The remainder of respondents' households burn or compost their waste (40.7%).

**Table 70: Has Household Waste Production Increased?**

	N	Percentage
Yes	34	28.8%
No	49	41.5%
Don't no	35	29.7%
Total	118	100%

**Table 71: Sorting Household Waste**

	N	Percentage
Always	5	4.3%
Sometimes	50	42.7%
Never	62	53.0%
Total	117	100%

**Table 72: Disposal of Household Waste**

	N	Percentage
Composting and burning	48	40.7%
Municipal garbage pick-up	65	55.1%
Dump in rivers/streams	3	2.5%
Dump on open land or veldt	2	1.7%
Total	118	100%

According to author Eric Rosenthal (1979), Rustenburg and its environs was recognised around the world for its natural springs and healing environment. However, the destruction of the environment through mining has changed the region into one of the most polluted areas in South Africa and the destruction in the region is comparable to the Norilsk complex in Russia (Wikipedia, 2011)<sup>13</sup>. Besides mining, unsustainable agricultural practices, increasing

<sup>13</sup> The Bench Marks Report (2007) does note that even though mining corporations may comply with the legislative and regulatory requirements within which they operate, there are environmental aspects that are not as yet covered by any international conventions, by national legislation or regulation, or even in the Mining Charter thus there are still a number of environmental issues which affect platinum mining communities. Furthermore, consideration should be given to the combined impact of a number of mining operations on the environment, where each mine might be operating

urbanisation and migration, industries related to mining and tourism contribute to the strain on the environment through the excessive use of environmental resources. The pressures on the environment result in changes in land use, air and water pollution, loss of biodiversity and ecosystems (North West Department of Agriculture, Conservation and Environment, 2008; Bench Marks, 2007).

The most severe land transformation is the result of direct conversion of natural habitat for human requirements, including cultivation and grazing activities, rural and urban development, industrial and mining activities, and infrastructure development (North West Department of Agriculture, Conservation and Environment, 2008). For example, the mines generate large volumes of waste materials that are disposed of on land in the form of mine rock dumps, rock waste facilities, heap leach facilities and tailings storage facilities and backfill (Bench Marks, 2007). Furthermore, a loss of agricultural land to opencast mining has an economic impact on communities such as the Bakgatla that are still involved in agricultural pursuits (Bench Marks, 2007). In addition to changed land use, the land disposal of large volumes of waste material has an impact on the water system as well as on air pollution (Bench Marks, 2007).

Indirect impacts that also contribute to land transformation include alien invasive plant species (71 recorded in the NW) and overexploitation of ecosystems (North West Department of Agriculture, Conservation and Environment, 2008). The direct and indirect impacts make the land susceptible to desertification, sterilisation of arable land, soil and veldt degradation, and extensive erosion due to overstocking, erratic rainfall and drought patterns, regular veldt fires (more than once per season) (North West Department of Agriculture, Conservation and Environment, 2008).

Statistics of land transformation in the NW show that close to 30% of the land in the province has been transformed – 21% is due to cultivation with the remaining 8% affected by erosion features, landfills and feedlots, urbanisation, infrastructure development, sports fields and golf courses, and mining. The pressure on the environment due to the transformation of land affects all organisms and ecosystems dependent on land and therefore the health and safety, particularly of urban communities (North West Department of Agriculture, Conservation and Environment, 2008). An aspect of specific concern within the district is that

---

within legal limits with regard to water and air pollution, but where the combined impact of many operations might affect communities negatively (Bench Marks, 2007).

as much as 12% of the land area in Moses Kotane is classified as degraded (Bojanala Platinum District Municipality, 2010).

Air quality in the Bojanala district has been negatively influenced by both natural and anthropological sources. The result is poor air quality and air pollution which has numerous ecological and human health impacts as well as increases in greenhouse gas emissions (North West Department of Agriculture, Conservation and Environment, 2008). The assumption is that air quality in platinum-producing regions is poor and that: “The paradox for Rustenburg is that platinum is a key component in ensuring that pollution from motor vehicle emissions are minimised thus contributing to cleaner air globally, yet the platinum smelting process results in unacceptably high sulphur emissions in the Rustenburg area.” (Bench Marks, 2007).

When asked if respondents knew what climate change was, 41 of the 118 respondents said they knew what climate change is, 55 respondents said they knew a bit about climate change and 22 said they didn't know anything. When these respondents were asked how serious they thought climate change or global warming is, just over 70% of respondents thought it was a very or somewhat serious problem. No respondents felt it was not a serious problem at all. Study participants were then asked how concerned they were about climate change: half of the respondents were concerned about climate change, 2 people were not at all concerned about climate change and 19 people or 16% did not know how concerned they were about climate change.

**Table 73: Knowledge of Climate Change**

	N	Percentage
Yes	41	34.7%
Know a bit	55	46.6%
No	22	18.6%
Total	118	100%

**Table 74: How Serious is Climate Change**

	N	Percentage
Very serious problem	37	31.4%
Somewhat serious problem	50	42.4%
Not a serious problem at all	0	0%
Don't know	31	26.3%
Total	118	100%

**Table 75: Concern about Climate Change**

	N	Percentage
Very much	14	11.9%
A lot	46	39.0%
A little	37	31.4%
Not at all	2	1.7%
Don't know	19	16.1%
Total	118	100%

The state of the water resources in the NW Province is characterized by an overall scarcity of water as many surface water systems are non-perennial. The abstraction of groundwater for mining and commercial use and the construction of dams and reservoirs have resulted in changes from the riverine to lacustrine systems; and inter-basin transfers of water from different catchments have major quantity ramifications for water and sensitive wetland areas in the NW (NWDACE, 2007).

Water scarcity has increased in the NW due to rising population numbers and increasing standards of living and demands for sanitation etc, mining - which requires high volumes of water for production and disposal of waste products - and unmanaged increasing irrigation for agriculture (North West Department of Agriculture, Conservation and Environment, 2008). The scarcity of water has been compounded by the deterioration in quality as a result of water pollution. The major sources of pollution are:

- Urban/industrial effluent return flows;
- Mining effluent and dewatering;
- Non-compliance of sewage works due to lack of finances and human resources;
- Eutrophication;

- Agriculture (nitrates from fertiliser application and salinisation);
- Acidification (for example, from acid mine drainage);
- Diffuse pollution from dense settlements;
- Sedimentation and silt migration;
- Treated sewage effluents, and
- Impoundments (Bojanala Platinum District Municipality, 2010; Bench Marks, 2007; North West Department of Agriculture, Conservation and Environment, 2008).

The Blue Drop 2010 report notes that municipalities in the North West Province need to urgently prioritise the quality management of drinking water as 55% of municipalities assessed scored less than 50% (Department of Water Affairs, Republic of South Africa, 2010). Rural and smaller systems particularly needed to be improved (Department of Water Affairs, Republic of South Africa, 2010). Moses Kotane Local Municipality scored 48.9% in the assessment and the report noted a pattern of digress (Department of Water Affairs, Republic of South Africa, 2010). The Blue Drop report notes that the municipality has to improve almost every aspect of managing the quality of their drinking water since various basic requirements have not been met (Department of Water Affairs, Republic of South Africa, 2010). As a result, the Department cannot say with confidence that the Moses Kotane Local Municipality would be able to sustain safe water quality at all times in the registered water supply systems (Department of Water Affairs, Republic of South Africa, 2010).

Besides the impact on the environment, the deficit of water expected in the province will limit potential development in the near future (North West Department of Agriculture, Conservation and Environment, 2008).

Within the NW Province a large portion of the human population is dependent on healthy ecosystems and the services they provide. 42% of ecosystems in the NW are threatened (North West Department of Agriculture, Conservation and Environment, 2008). The most significant cause for the loss and degradation of biodiversity and ecosystem health is due to economic and social development (North West Department of Agriculture, Conservation and Environment, 2008). The NW Province has eight plant species that are threatened. In addition to this, a number of large and small mammal species are threatened. Reptiles and amphibians that are endangered due to habitat destruction include the Southern African Python and the Giant Bullfrog, as well as nine threatened Lepidopterans (North West Department of Agriculture, Conservation and Environment, 2008). There are large numbers of bird species in the NW Province classified as Near Threatened or Vulnerable due to

degradation in the types of habitats that they require for breeding and foraging. Little information exists on the status of butterflies so there is uncertainty regarding species endangered. Three fish species on the Red Data List are all endemic to parts of river systems that occur in the NW Province (North West Department of Agriculture, Conservation and Environment, 2008). The conservation status of these species reflects the poor condition of the rivers (North West Department of Agriculture, Conservation and Environment, 2008).

Out of the 117 respondents who answered the question regarding whether they knew the names of species of plants and animals in their surroundings, 64.1% said “Yes” and 35.9% said “No”.

**Table 76: Knowledge of Local Plants and Animals**

	N	Percentage
Yes	75	64.1%
No	42	35.9%
Total	117	100%

A much higher percentage of respondents support government environment and conservation policies – of the 116 respondents to this question, 83.6% said “Yes”.

**Table 77: Support for Government Environment and Conservation Policies**

	N	Percentage
Yes	97	83.6%
No	19	16.4%
Total	116	100%

Between 117 and 119 respondents replied to the questions about environmental concerns: Most people were concerned about the absence of proper waste disposal sites (73.7%), while a large majority of study participants were concerned about the pollution of rivers and streams (68.9%) and air pollution (65.5%). Slightly fewer respondents were concerned about drought (60.7%), soil erosion (61.0%) and erratic weather patterns (55.9%). Half of the participants are concerned about floods and only 47% of respondents were concerned about decreasing wildlife species – although this question also elicited the highest percentage of people (16.2%) who did not know whether or not they were concerned about decreasing wildlife species.

Approximately a quarter of people were not concerned about the pollution of rivers or streams (25.2%); air pollution (25.2%) or decreasing wildlife species (28.2%). Similarly, approximately a quarter of respondents were sometimes concerned about erratic weather patterns (28.8%), drought (27.4%) and soil erosion (26.3%) with 32.2% of people sometimes concerned about floods.

**Table 78: Environmental Concerns**

	Yes	No	Don't know	Sometimes
Pollution of rivers and streams	68.9%	25.2%	5.0%	0.8%
Air pollution	65.5%	25.2%	2.5%	6.7%
Absence of proper waste disposal sites	73.7%	11.0%	8.5%	6.8%
Decreasing wildlife species	47.0%	28.2%	16.2%	8.5%
Drought	60.7%	8.5%	3.4%	27.4%
Soil erosion	61.0%	6.8%	5.9%	26.3%
Flood	50.0%	13.6%	4.2%	32.2%
Erratic weather pattern	55.9%	5.9%	9.3%	28.8%

When asked to what extent respondents feel that the government is protecting the environment for future generations, 18.5% feel the government is doing enough and 52.9% feel that the government is not doing enough. A relatively high percentage of 28.6% do not know whether the government is protecting the environment for future generations. Interestingly, when study participants were asked whether they agreed or disagreed with a few statements regarding environmental regulations, they tended to agree that government should be tougher on pollution (89.7%); that there should be tougher anti-pollution laws (87.9%); that businesses who do not meet environmental regulations should be closed down (81.0%) and; that government should impose heavy taxes for those who import environmentally damaging goods (77.6%). However, respondents tended to disagree (51.7%) rather than agree (33.6%) with the statement "Government should strictly enforce a ban on plastic bags and bottles". One must assume that this is the statement that people have already felt the impact of charging for plastic bags and bottles directly and think they would be less affected by the other environmental regulations.

**Table 79: Extent of Government Protection for Future Generations**

	N	Percentage
Enough	22	18.5%
Not Enough	63	52.9%
Don't Know	34	28.6%
Total	119	100%

**Table 80: Environmental Regulation**

	Agree	Disagree	Don't know
There should be tougher anti-pollution laws	87.9%	0.9%	11.2%
Those businesses that do not meet environmental regulations should be closed down	81.0%	9.5%	9.5%
Government should impose heavy taxes for those who import environmentally damaging goods	77.6%	11.2%	11.2%
The government should strictly enforce a ban on plastic bags and bottles	33.6%	51.7%	14.7%
Government should be tougher on pollution	89.7%	2.6%	7.8%

Study participants were asked how they rate the quality of their drinking water and air quality: 113 of the 117 people thought their drinking water was excellent or good and 98 of 116 people thought their air quality was good or excellent and 38.3% felt that diseases related to poor air quality had decreased and 60% did not know if diseases related to poor air quality had increased or decreased.

**Table 81: Quality of Drinking Water**

	N	Percentage
Excellent	37	31.6%
Good	76	65.0%
Poor	1	0.9%
Don't Know	3	2.6%
Total	117	100%



**Table 82: Air Quality**

	N	Percentage
Excellent	20	17.2%
Good	78	67.2%
Poor	3	2.6%
Don't Know	15	12.9%
Total	116	100%

**Table 83: Diseases Related to Poor Air Quality**

	N	Percentage
Increased	2	1.7%
Decreased	44	38.3%
Don't Know	69	60.0%
Total	115	100%

When asked if respondents had noticed a change in the level of water in the streams, rivers or dams over the last 3 years, the majority (45.3%) did not know while 23.1% felt surface water levels had increased, 15.4% felt they had decreased and 16.2% felt they had stayed the same.

**Table 84: Change in Surface Water**

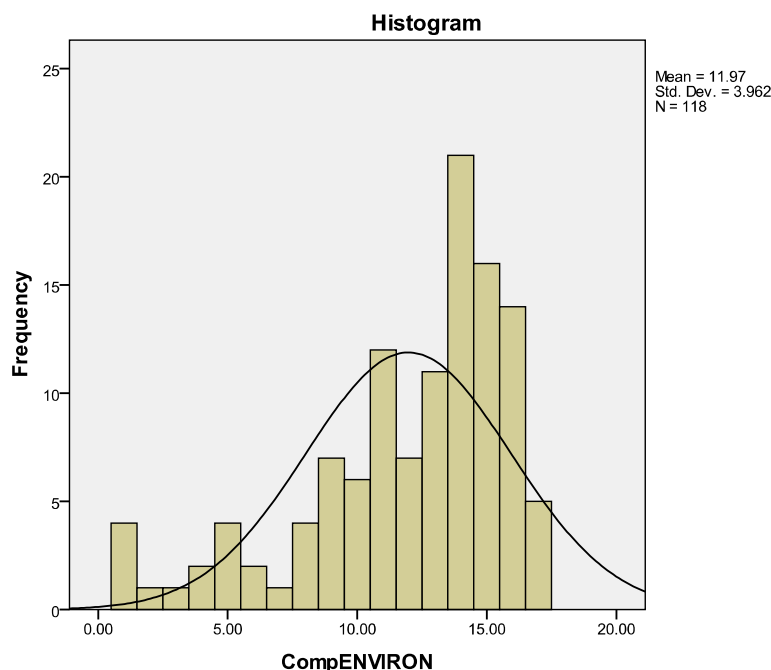
	N	Percentage
Increased	27	23.1%%
Decreased	18	15.4%
Stayed the same	19	16.2%
Don't Know	53	45.3%
Total	117	100%

Respondents were asked whether they agree or disagree with the following statements: "Besides human beings, nature is also a place for wild animals, snakes and birds" and "Living beings have to depend on nonliving beings in order to survive". The vast majority (96.6%) agreed with the first statement and three-quarters (75.2%) agreed with the second statement.

**Table 85: Connection to Nature**

	Agree	Disagree	Don't know	Total
Besides human beings, nature is also a place for wild animals, snakes and birds. (117 respondents)	96.6%	3.4%	0%	100%
Living beings have to depend on nonliving beings in order to survive. (117 respondents)	75.2%	12.0%	12.8%	100%

Environmental wellbeing is described as the feeling of connectedness with the environment. The composite variable for environmental wellbeing was derived by adding together the following indicators: knowledge of local plants and animals; support for government environment and conservation policies; environmental issues of concern, nature as place for humans and animals, snakes and birds; living beings dependence on nonliving beings and agreement or disagreement with increasing various environmental legislation. The average score for the composite variable “environmental wellbeing” was almost 12 while a high number of respondents scored 14. Male respondents tend to experience higher levels of environmental wellbeing than female respondents.

**Figure 8: Histogram of Environmental Wellbeing Composite Variable**

**Table 86: Gender and Environmental Wellbeing**

Mean	
Sex	CompENVIRON
Male	13.9412
Female	11.1786
Total	11.9746

Significant factors to note concerning environmental wellbeing is that it is likely that the environment in Lerome is under pressure and many respondents tend to agree. Respondents noted a number of environmental concerns including the absence of proper waste disposal sites; pollution of rivers and streams; air pollution; soil erosion; and drought. Furthermore, respondents feel that government should be tougher on environmental regulations and half of the respondents do not feel that the government is doing enough to protect environment for future generations.

#### **4.11. Crime and Governance**

Residents around platinum-mining areas are exposed to safety risks as a result of the mining. One of these is the possibility of tailings dams breaking and another is the risk created where geological faults are mined, resulting in seismic activity and the long term potential for earthquake-related disasters (Bench Marks, 2007). Both Implats and Anglo Platinum refer to the impact of seismic activities on mining in the 2005/ 2006 Annual Reports (Bench Marks, 2007). Impala notes that the deeper the PGM mines go, the more likely seismic activities will become as the result of faults (Bench Marks, 2007).

Besides the mine-related safety risks, various studies have shown that mining can contribute to an escalation in crime and violence at local and provincial levels. This is partially due to high unemployment, poverty and poor infrastructure as well as increased numbers of migrant workers and the proximity of single sex hostels (Bench Marks, 2007). Communities within Bojanala have raised concerns over lack of police stations, poor accessibility to existing police stations and under-resourced police stations (Bojanala Platinum District Municipality, 2010). The ratio for police stations is 1 per 40 926 inhabitants and there is a need to cater for the increasing population in the District (Bojanala Platinum District Municipality, 2010).

Crime statistics for the Mogwase police station, which serves Lerome and the surrounding areas, show that while crime decreased around 2005 and 2006, the statistics have increased once again. Sexual crimes, assault, robbery and theft are all common within the area.

**Table 87: Crime Statistics for Mogwase Police Station April/ March 2003 to April/ March 2010**

CRIME INFORMATION MANAGEMENT - SOUTH AFRICAN POLICE SERVICE							
Crime in Mogwase (NW) for April to March 2003/2004 to 2009/2010							
Crime Category	2003	2004	2005	2006	2007	2008	2009
CONTACT CRIME (CRIMES AGAINST THE PERSON)							
Murder	20	21	16	26	24	16	15
Total Sexual Crimes	117	125	125	123	144	138	141
Attempted murder	26	15	16	19	30	28	22
Assault with the intent to inflict grievous bodily harm	486	478	294	229	378	431	426
Common assault	274	266	147	165	359	342	265
Common robbery	98	76	36	50	58	73	79
Robbery with aggravating circumstances	56	69	79	96	150	111	129
CONTACT-RELATED CRIME							
Arson	27	22	13	25	26	22	14
Malicious damage to property	176	116	84	121	189	187	159
PROPERTY-RELATED CRIME							
Burglary at non-residential premises	128	121	96	78	133	146	144
Burglary at residential premises	296	248	201	228	301	316	306
Theft of motor vehicle and motorcycle	48	21	31	31	36	20	21
Theft out of or from motor vehicle	34	37	28	18	26	47	59
Stock-theft	79	100	98	86	60	73	85
CRIME HEAVILY DEPENDENT ON POLICE ACTION FOR DETECTION							

Illegal possession of firearms and ammunition	9	11	9	11	12	18	8
Drug-related crime	61	68	105	145	167	146	102
Driving under the influence of alcohol or drugs	3	10	15	21	36	37	36
OTHER SERIOUS CRIME							
All theft not mentioned elsewhere	461	474	169	206	273	278	240
Commercial crime	22	27	24	30	80	186	124
Shoplifting	135	113	80	76	30	49	45
SUBCATEGORIES FORMING PART OF AGGRAVATED ROBBERY ABOVE							
Carjacking	3	2	3	6	12	4	6
Truck hijacking	0	0	0	0	0	0	0
Robbery at residential premises	3	14	9	17	8	21	30
Robbery at non-residential premises	2	13	4	27	72	31	41
OTHER CRIME CATEGORIES							
Culpable homicide	16	21	23	23	22	28	34
Public violence	3	0	1	1	1	4	0
Crimen injuria	138	107	34	28	62	60	45
Neglect and ill-treatment of children	11	12	15	14	21	20	24
Kidnapping	0	1	0	0	1	2	1

When respondents were asked if they had been victims of crime in the last 12 months, the vast majority responded in the negative with only 16% being victims of crime. These offences included theft, robbery, sexual assault and other assault.

**Table 88: Victim of Crime**

Yes	16%
No	84%

**Table 89: Nature of offences**

	Number of offences	
	Once	More than one
Theft	3	Between 4 and 12 times
Robbery	4	
Vandalism		
Family Violence		
Sexual Assault	2	
Other Assault	1	
Fraud		

When asked whether respondents had seen or know of people that had been affected by crime in the last year, double the amount of people responded in the affirmative although the majority (70%) did not know or had not seen other people being crime victims in the past 12 months. The offences covered theft, robbery, sexual assault, other assault and fraud.

**Table 90: Know other victims of crime**

Yes	30.3%
No	69.7%

**Table 91: Nature of offences**

	Number of offences	
	Once	More than one
Theft	15	1
Robbery	18	
Vandalism		
Family Violence		5
Sexual Assault	5	8
Other Assault	6	1
Fraud	1	3

Although 16% of people had been victims of crime, the majority of people (56%) rarely felt safe when walking alone in their village after dark. 29% usually felt safe and 14% always felt safe in their neighbourhoods after dark.

**Table 92: Safety walking in village after dark**

	Number of Respondents	Percentage
Always safe	17	14.3%
Usually Safe	35	29.4%
Rarely safe	67	56.3%
Total	119	100%

The question of whether there had been enmity in the community over the preceding 12 months was posed to study participants. 11 respondents said there had been enmity. The reasons for the enmity tended to be alcohol-fuelled and had taken place around taverns. These were usually due to drunk people fighting / bar-brawls or jealousy over girlfriends.

Despite the tribal succession battle, nothing was mentioned in this regard. Chidester, Dexter & James (2003) note that further research is required on how social trust might be built in relation to traditional leadership. They highlight the fact that traditional leaders reinforce relations of social hierarchy, patriarchy and patronage that block the free flow of social capital therefore, the system of traditional leadership tends to produce “bad social capital” similar to criminal gangs. Although the social capital associated with traditional leadership might be perceived within local communities in a range of different ways, different criteria are used for trusting traditional leaders that range from social ties of ‘fictive kinship’ to social norms of democratic accountability (Chidester, Dexter, & James, 2003).

**Table 93: Enmity in Community during the previous 12 months**

	Number of Respondents	Percentage
Yes	11	9.2%
No	108	90.8%
Total	119	100%

In the sphere of government, social capital is built through social trust in the nation, the state and public institutions and is also built in and through public participation in the political culture (Chidester, Dexter, & James, 2003). Conversely, the lack of social capital in the government sphere is measured by the level of mistrust in government and public institutions (Chidester, Dexter, & James, 2003). Kotze & Steenekamp (2008) measured the highest levels of confidence in South African public institutions. As mentioned previously, the public trusted the church most (84.2%), followed by the president (72.8%) and television (71.2%). The South African government (69.4%) and the Constitutional Court (66.0%) are the

remaining two institutions that make up the public's top five ranked institutions in terms of confidence levels (Kotze & Steenekamp, 2008).

With regards to the Bakgatla, study respondents trust the tribal authority most (50%), followed by the Chief (49.2%), the courts (48.3%) and then the police (46.2%). The highest level of distrust expressed was for the media (39.0%) followed by the National Government (22%), and the Provincial and Local government (both 21.8%). The lowest level of distrust was for the courts (15.0%). Respondents seemed most uncertain about their levels of trust in their headman/woman (12.7%) followed by the Provincial government (10.1%) and the National government (9.3%).

**Table 94: Level of Trust in Institutions**

	Trust	Somewhat	Distrust	Don't know
Courts	48.3%	31.7%	15.0%	5.0%
Police	46.2%	31.9%	20.2%	1.7%
Local Government	39.5%	32.8%	21.8%	5.9%
Provincial Government	39.5%	28.6%	21.8%	10.1%
National Government	39%	29.7%	22%	9.3%
Media	21.2%	33.1%	39%	6.8%
Financial institutes	43.2%	32.2%	19.5%	5.1%
Chief	49.2%	30.5%	18.6%	1.7%
Headman/ headwoman	41.5%	30.5%	15.3%	12.7%
Tribal authority	50%	33.9%	15.3%	0.8%

Of the 119 people that responded, an almost equal number of respondents either did not know or felt that the village head had implemented activities according to the decisions of the village (38,7% versus 37.8%). 18.5% of respondents did not agree that the village head had implemented activities according to village decisions. When asked if respondents were informed of decisions taken by the village, 41% said sometimes, 31% said yes, 17% said no and 11% said they didn't know. When the same question was posed regarding the Bakgatla Tribal Authority, the results were very similar: 40% said sometimes, 29% said yes, 18% said no and 12% said they didn't know and the question was not applicable to two people.



**Table 95: Headman Implementation of Village Decisions**

	Number of Respondents	Percentage
Yes	45	37.8%
No	22	18.5%
Don't Know	46	38.7%
Not Applicable	6	5%
Total	119	100%

**Table 96: Informed of Village Decisions**

	Number of Respondents	Percentage
Yes	37	31.1%
Sometimes	49	41.2%
No	20	16.8%
Don't Know	13	10.9%
Total	119	100%

**Table 97: Informed of Decisions by BTA**

	Number of Respondents	Percentage
Yes	34	28.6%
Sometimes	48	40.3%
No	21	17.6%
Don't Know	14	11.8%
Not Applicable	2	1.7%
Total	119	100%

The SA National Planning Commission (2011) identified corruption as another key dimension that undermines South Africa's progress: "Corruption undermines state legitimacy and service delivery" (SA National Planning Commission, 2011). Corruption has been defined as the misuse of official positions for personal gain (SA National Planning Commission, 2011). It erodes social capital in the state by eroding trust, undermining confidence in the state and weakens confidence in the democratic system by enabling the better off to exert influence over the policy process or obtain preferential access to services (SA National Planning Commission, 2011). Corruption weakens government's ability to deliver services, increase social mobility and overcome inequalities. High levels of inequality can, in turn, exacerbate the potential for corruption (SA National Planning Commission,

2011). For example, well-connected business people may be able to use their influence to override formal procedures when they come into contact with a relatively weak state. The costs of corruption are largely borne by the poor through the impact on the quality and accessibility of public services. Corruption is not only an institutional problem, but also a moral and political one: it requires political will to eradicate corruption (SA National Planning Commission, 2011).

When asked how common corruption is amongst South African's, the overwhelming majority of respondents believed corruption is common. Six people thought it was not common and eight people or 6.7% did not know.

**Table 98: How common is corruption in SA?**

	Number of Respondents	Percentage
Common	105	88.2%
Not Common	6	5%
Don't Know	8	6.7%
Total	119	100%

When asked about the different incidences of corruption the majority of respondents agreed or partly agreed that corruption in all forms took place. Corrupt practices covered misusing South Africans' money (78.2%); misusing official government transport (76.5%); favouring certain people in employment situations (76.5%); misusing government resources like water and electricity (71.4%); and buying votes through giving of gifts or favours (70.6%). Respondents were also fairly certain that corruption in the form of misusing government property and equipment (69.7%); misusing subordinate staff (68.1%); and favouring some employees when it gave them access to training (63.9%) and promoting people (63%) also took place.

Although the majority of participants agreed or partly agreed that other forms of corruption took place, fewer respondents were certain about this. Although the majority of respondents agreed that delay of payment for corrupt motives and that the incidence of malpractice in procurement of goods and services did exist, these were also the two highest incidences where people only partly agreed: 24.6% or almost of quarter of people partly agreed that payments were delayed for corrupt motives and 22.0% partly agreed that the incidence of malpractice took place when procuring goods and services.

The statements that respondents disagreed with the most were that government property and equipment and government resources like water and electricity were misused (12.6% disagreed with for both statements). 22.0% of respondents didn't know whether incidences of malpractice in the procurement of goods and services took place, while 20.2% didn't know whether the awarding of contracts was corrupt.

**Table 99: Corruption in South Africa**

	Agree	Partly agree	Disagree	Don't know
Misuse of South African's money	78.2%	11.8%	9.2%	0.8%
Misuse of subordinate staff	68.1%	18.5%	10.1%	3.4%
Misuse of Official Government Transport	76.5%	13.4%	7.6%	2.5%
Misuse of Government property and equipment	69.7%	16.8%	12.6%	0.8%
Misuse of Government resources like water and electricity	71.4%	15.1%	12.6%	0.8%
Favour in employment	76.5%	14.3%	6.7%	2.5%
Favour in training	63.9%	21.8%	6.7%	7.6%
Favour in promotion	63.0%	16.8%	7.6%	12.6%
Favour in transfer	53.4%	22.0%	10.2%	14.4%
Favour in award of contracts	53.8%	16.8%	9.2%	20.2%
Malpractice in procurement of goods and services	46.6%	22.0%	9.3%	22.0%
Delay of payment for corrupt motives	49.2%	24.6%	8.5%	17.8%
Allocate budget and implement activities that are not part of Masterplan	52.9%	18.5%	6.7%	21.8%
Doing favour or giving money or gifts to buy votes	70.6%	10.9%	15.1%	3.4%

When comparing how many South African's versus how many Bakgatla are involved in corruption, respondents largely agree that corruption is commonplace: 81.4% of respondents felt that most South Africans are involved in corruption in comparison to 45.4% of respondents that feel that most Bakgatla are involved in corruption. However, 44.5% of respondents felt that only a few Bakgatla are involved in corruption. Only two respondents felt that no South African's and four respondents that no Bakgatla were involved in corruption.

**Table 100: South Africans and Bakgatla involved in corruption**

	Bakgatla involved in corruption		South African's involved in corruption	
	N	Percentage	N	Percentage
All	2	1.7%	2	1.7%
Most	54	45.4%	96	81.4%
A Few	53	44.5%	16	13.6%
None	4	3.4%	2	1.7%
Don't Know	6	5.0%	2	1.7%
Total	119	100%	118	100%

When asked what the reasons for corruption amongst the Bakgatla were, almost 29% of respondents disagreed that it was the lack of clear rules and laws that were the cause. Most respondents agreed or partly agreed that it was due to complicated and lengthy procedures (85.8%) and 82.4% agreed or partly agreed that it was common practice to give gifts to influential people and that the weak enforcement of law led to corruption. Although over half of the respondents agreed that it was common practice to have sex with influential people, 21.8% didn't know about this statement.

In contrast, when respondents were asked what the reasons were for corruption amongst South Africans, close to 34% disagreed that it was a lack of clear rules and laws. Most respondents agreed that it is common practice in South Africa to give gifts to influential people (84.4%) and have sex with influential people (79.6%). 78.8% blamed complicated and lengthy procedures while 77.2% of respondents believed that weak enforcement of the law is the reason for corruption with almost 17% of respondents disagreeing with this statement.

**Table 101: Reasons for corruption amongst Bakgatla**

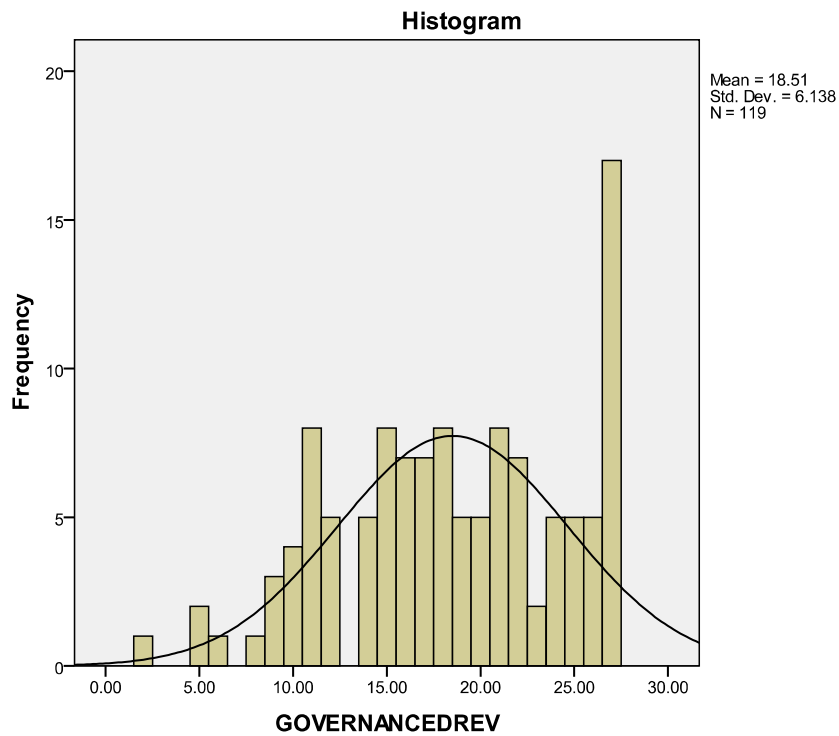
	Agree	Partly agree	Disagree	Don't know
Lack of clear rules and laws	45.4%	22.7%	28.6%	3.4%
Common practices giving gifts to employers, superiors, and other influential people	51.3%	31.1%	6.7%	10.9%
Common practices having sex with employers, superiors, and other influential people	53.8%	19.3%	5.0%	21.8%
Weak enforcement of law	62.2%	20.2%	15.1%	2.5%
Complicated and lengthy procedures	59.7%	26.1%	4.2%	10.1%

**Table 102: Reasons for corruption amongst South Africans**

	Agree	Partly agree	Disagree	Don't know
Lack of clear rules and laws	53.4%	11.0%	33.9%	1.7%
Common practices giving gifts to employers, superiors, and other influential people	60.2%	24.6%	5.9%	9.3%
Common practices having sex with employers, superiors, and other influential people	61.0%	18.6%	5.1%	15.3%
Weak enforcement of law	61.9%	15.3%	16.9%	5.9%
Complicated and lengthy procedures	53.4%	25.4%	10.2%	11.0%

The composite variable for governance was established using levels of trust in public institutions, with a higher score indicating a higher level of trust. The mean score was 18.51 although the mode or most frequent response was 27. Male respondents tend to rate governance significantly higher than females (20.3 and 17.8 respectively). The correlation between trust in governance and age, shows an increase with age (0.252 - significant correlation).

**Figure 9: Histogram of Governance Composite Variable**



**Table 103: Governance composite variable and gender**

Mean	
Sex	GOVERNANCE
Male	20.2857
Female	17.7738
Total	18.5126

**Table 104: Correlation between governance composite variable and age**

		Age	Governancedrev
Age	Pearson Correlation	1	.252**
	Sig. (2-tailed)		.006
	N	117	117
GOVERNANCEDREV	Pearson Correlation	.252**	1
	Sig. (2-tailed)	.006	
	N	117	119
**. Correlation is significant at the 0.01 level (2-tailed).			

The governance variable was disaggregated into four variables:

- Tribal viz., traditional leaders and tribal authority,
- NPL, i.e. National, Provincial and Local Government,
- Judiciary, viz. courts and Police, and
- Private sector, viz. media and financial institutions.

The level of trust is highest in the tribal variable (6.7) and lowest in the private variable (3.9).

**Table 105: Governance variables disaggregated**

	N	Mean
GovTRIBAL	117	6.6667
GovNPL	113	6.3186
GovJUDICIARY	117	4.5556
GovPRIVATE	117	3.8547

With regards to crime, respondents reported that sexual crimes, assault, robbery and theft are all common within the area and unsurprisingly, more than half the respondents do not feel safe walking in Lerome after dark. Crime is likely to impact on social wellbeing as it undermines social capital. It is significant that level of trust is highest in the tribal sector and lowest in the private sector thus respondents tend to trust their chief and tribal leaders more than banks and media, and that when participants were asked whether there was enmity in the community, no respondent mentioned the Bakgatla succession battle. However, trust is undermined by corruption and study participants believe that almost 90% of South Africans are involved in corruption.

#### **4.12. Subjective Wellbeing or Happiness**

In order to evaluate or define subjective wellbeing or happiness amongst the Bakgatla, a number of questions were posed to study participants. The first question posed to study participants regarding happiness was: 'Name the six or seven things crucial in leading to a happy and contented life.'

Previous studies found that people mention similar things, usually everyday life issues, that they control. Material conditions and consumption are most prominently mentioned in these surveys, followed by a fulfilling family life (Powdthavee, Happiness and Wellbeing, 2009). Personal and family health is another determinant as is job satisfaction.

Study participants responses were condensed into general categories. According to respondents, the crucial aspects for a happy and contented life were money (49); employment (for self or others) (46); owning a house, repairing or renovating or having a bigger and more comfortable house (45); good health – for self or others e.g. grandmother (45). Some responses which didn't fit into general categories included peace, harvesting, big farming site, enforced laws on closing and opening time of taverns, “disownership of foreign people's business”, change in the leading political party and alcohol.

**Table 106: Components crucial for a happy and contented life**

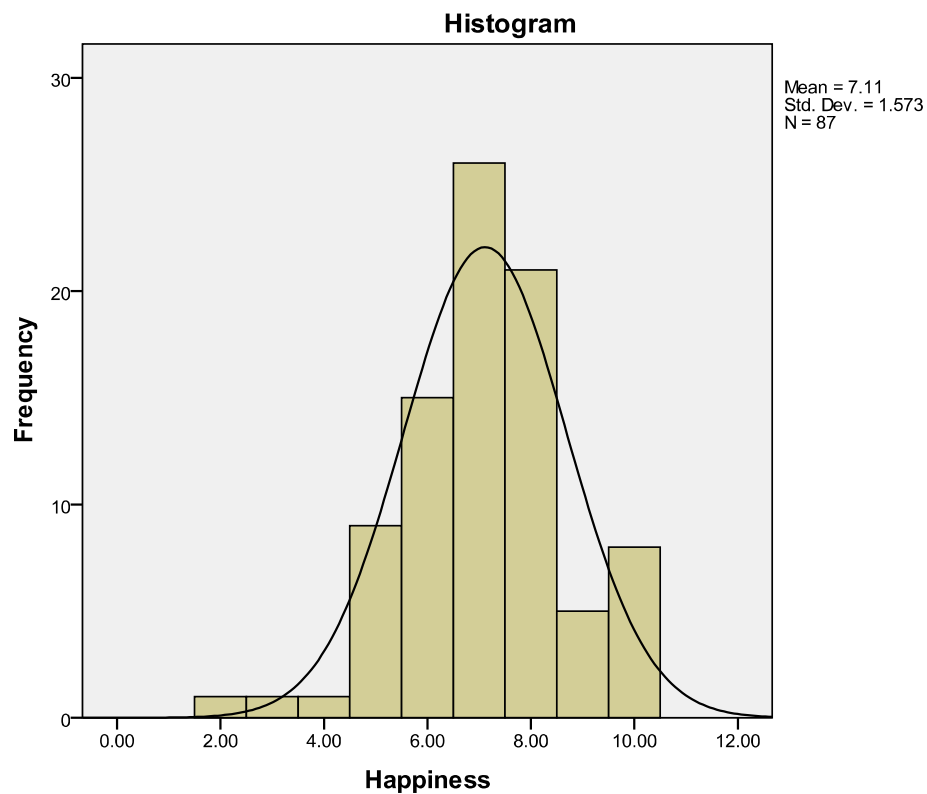
	N
Community/Society	28
Housing	45
Family	57
Car	33
Career/ job improvement	12
Employment (self or others)	46
Furniture	5
Vegetable garden	3
Health	45
Education	19
Business and improvement	13
Clothes	14
Money	49
Food	23
Water	23
Crime reduced	22
Basic needs	2
Improved lifestyle	14
Spirituality	5
Environment	11
Infrastructure (roads, electricity, street lights etc)	16
Other	12



Study participants were asked to rate how happy they were on a scale of one to 10, with one being unhappy or not a very happy person and ten, a very happy person. The highest number of people (26 respondents) felt their level of happiness was 7 out of 10, followed by 21 people who rated their happiness at 8. Thus the majority of respondents rated their happiness between 6 and 8 out of ten (71.2%). Three people or 3.3% of respondents felt that they were not very happy people (3 or less out of ten) while 34 people or 39.0% felt as if they are very happy people (8 and above out of ten), with an astonishing 9.2% of people scoring 10 out of 10 or being very happy people.

**Table 107: Self-rated happiness scale**

	N	Percentage
1	0	0%
2	1	1.1%
3	1	1.1%
4	1	1.1%
5	9	10.3%
6	15	17.2%
7	26	29.9%
8	21	24.1%
9	5	5.7%
10	8	9.2%
Total	87	100%

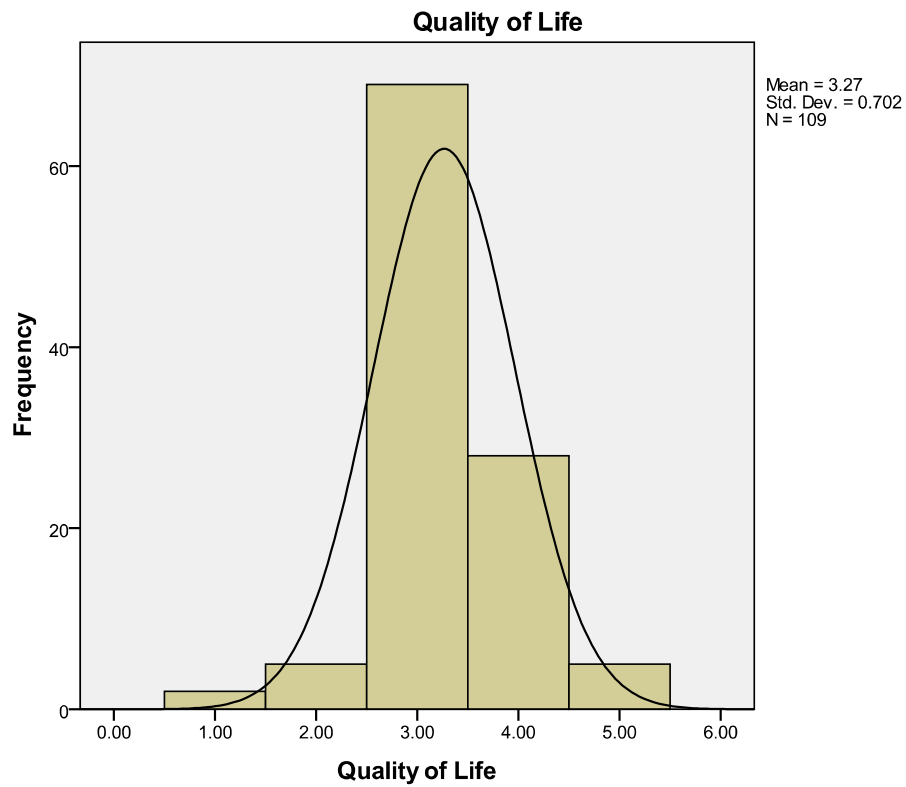
**Figure 10: Histogram of self-rated happiness**

When respondents were asked to rate the quality of their lives, the majority felt the quality of their lives was neither poor nor good (63.3%). Just over 30% of respondents felt the quality of their lives was good or very good. Five people thought the quality of their lives was poor and two people felt it was very poor. When study participants were asked how much they enjoy life, one participant did not enjoy life at all, 29 people enjoyed life a little and 58 people enjoyed life “Quite a lot”. Just over 20% or 23 people enjoyed life “An extreme amount”.

**Table 108: Self-rated Quality of Life**

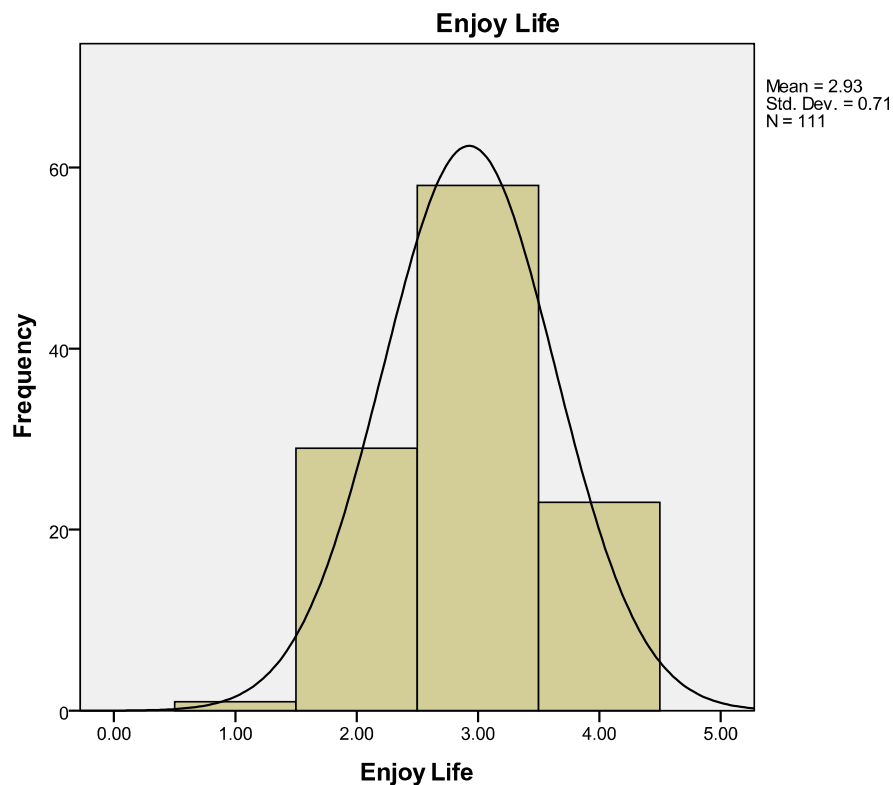
	N	Percentage
Very poor	2	1.8%
Poor	5	4.6%
Neither poor nor good	69	63.3%
Good	28	25.7%
Very good	5	4.6%
Total	109	100%

**Figure 11: Histogram of Self-rated Quality of Life**



**Table 109: Enjoyment of Life**

	N	Percentage
Not at all	1	0.9%
A little	29	26.1%
Quite a lot	58	52.3%
An extreme amount	23	20.7%
Total	111	100%

**Figure 12: Histogram of Self-reported Enjoyment of Life**

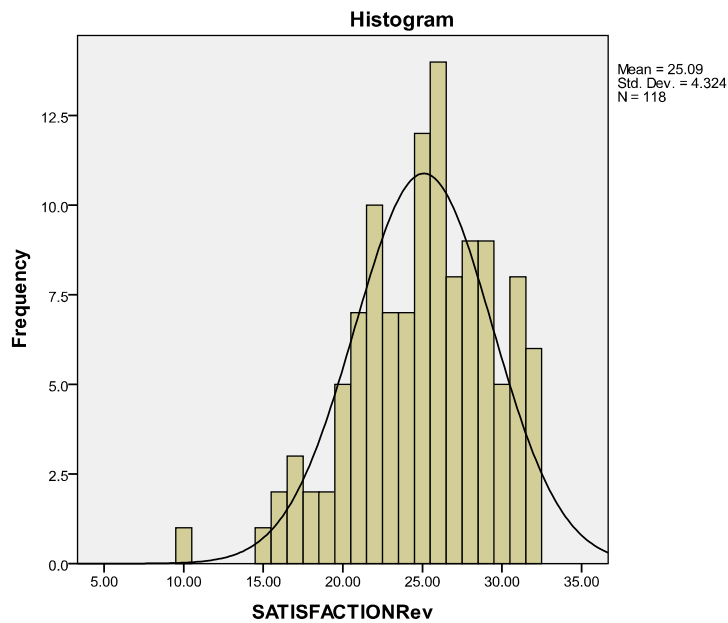
Study participants were asked how satisfied they are with aspects of their lives, namely their physical, financial, occupational, educational, social, environmental, spiritual and mental wellbeing. Results were varied: the majority of respondents were satisfied with their mental health (72.4%) and spirituality (69.8%). These were followed by their physical health (59%). Just over half of the respondents were satisfied with their social wellbeing or relationships with other people and the community (53.8%). Just over 40% of respondents were fairly satisfied with their knowledge and general education and the environment in which they live. When it came to financial wellbeing and occupational wellbeing, respondents tended to be less satisfied. A low number of respondents were dissatisfied with all aspects of their lives.

**Table 110: Satisfactions with Aspects of Life**

	Satisfied	Fairly satisfied	Not very satisfied	Dissatisfied	Don't know
Your health	59%	29.9%	8.5%	2.6%	0%
The security of your finances/livelihood	34.5%	31.9%	23.3%	7.8%	2.6%
The major occupations in your daily life (could be your job if formally employed, farm work, housework)	32.5%	26.5%	25.6%	7.7%	7.7%
Your knowledge and general education	25%	41.4%	24.1%	7.8%	1.7%
The environment in which you live	39.8%	40.7%	12.4%	4.4%	2.7%
Your relationships with other people and the community	53.8%	33.3%	11.1%	1.7%	0%
Your spirituality	69.8%	21.6%	6.0%	2.6%	0%
Your emotions and mental health	72.4%	19.0%	6.9%	1.7%	0%

A composite variable was created using satisfaction with different areas of life, scores were reversed so that one is dissatisfied and four is satisfied. The highest score possible or the most satisfied respondents were with life was 32 with the lowest being 10 (range is between 10 and 32). The histogram illustrates that the average score was 25.09, although the mode is 26, with a standard deviation of 4.32. When correlated with age, as people get older, they become less satisfied, and men are more satisfied with life than women – significant at the 5% level.

**Figure 13: Histogram of life satisfaction**



**Table 111: Correlation between life satisfaction and age**

		Age	SATISFACTIONRev
Age	Pearson Correlation	1	-.183*
	Sig. (2-tailed)		.049
	N	117	116
SATISFACTIONRev	Pearson Correlation	-.183*	1
	Sig. (2-tailed)	.049	
	N	116	118
*. Correlation is significant at the 0.05 level (2-tailed).			

**Table 112: Composite variable life satisfaction and gender**

Mean	
Sex	SATISFACTIONRev
Male	26.4000
Female	24.5422
Total	25.0932

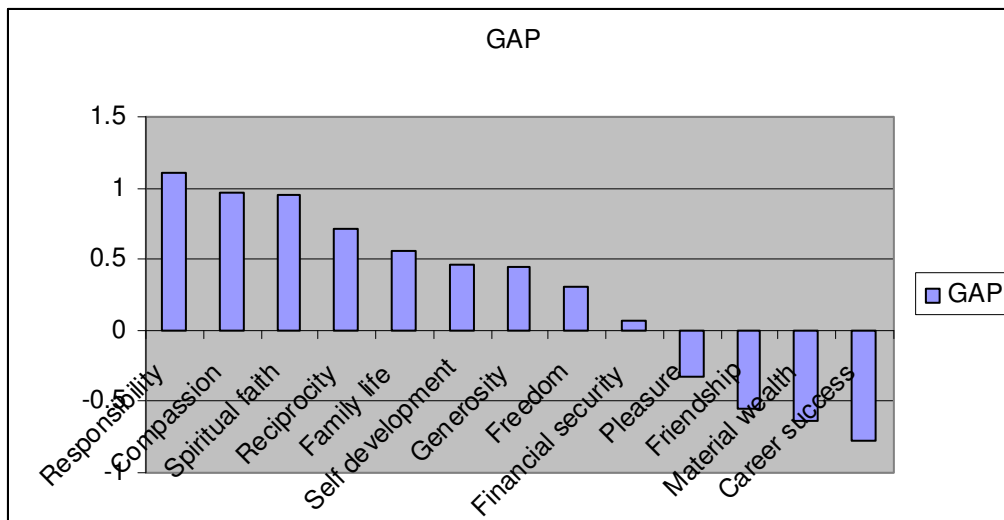
When participants were asked to indicate the importance they assign to a number of life principles, for themselves and for other South Africans, on a scale of 1 to 10 with 1 being not

important at all and 10 being extremely important, results were similar and towards the higher end of the scale (i.e. more important). In general, though, the importance of the others was slightly lower. Exceptions to this were that respondents felt that others believe friendship, material wealth, career success and pleasure to be more important than they do. The principle that the majority of respondents felt was important was freedom (8.74) followed by family life (8.73) and responsibility (8.69). According to respondents, their least important principles were friendship (7.32) and reciprocity (7.32) followed by generosity (7.54) and then career success (7.57). The highest score respondents gave to life principles for other South Africans was for pleasure (8.53) while the lowest score was for reciprocity (6.60).

The difference or GAP between what respondents found important for themselves and what they think others value: respondents tend to believe that they rate responsibility much higher than others (GAP of 1.11) and, at the bottom, rate career success much lower than others (GAP of -0.77).

**Table 113: Importance of life principles - A comparison between self and South Africans in general**

	<b>Importance Self</b>	<b>Importance Others</b>	<b>GAP</b>
Responsibility	8.69	7.58	1.11
Compassion	7.74	6.78	0.96
Spiritual faith	8.19	7.24	0.95
Reciprocity	7.32	6.6	0.72
Family life	8.73	8.17	0.56
Self development	8.16	7.7	0.46
Generosity	7.54	7.1	0.44
Freedom	8.74	8.43	0.31
Financial security	8.41	8.34	0.07
Pleasure	8.2	8.53	-0.33
Friendship	7.32	7.87	-0.55
Material wealth	7.58	8.21	-0.63
Career success	7.57	8.34	-0.77

**Figure 14: Graph of the GAP between values**

Self-reported happiness, self-reported enjoyment of life and perceived quality of life were significantly correlated: happiness and quality of life (0.358); happiness and enjoyment of life (0.454) and quality of life and enjoyment of life (0.325). In order to create an overall happiness index or the composite variable of subjective wellbeing (SWB) for study respondents three variables were added together, namely self-reported happiness, self-reported enjoyment of life and perceived quality of life (Powdthavee, 2007). Strong correlations were found between the three measures and the overall happiness index (SWB), at the 1% level: SWB and self-reported happiness (0.925); SWB and perceived quality of life (0.580); SWB and self-reported enjoyment of life (0.672).



**Table 114: Correlations between Subjective Wellbeing, Happiness, Quality of Life and Enjoyment of Life**

		SWB	Happiness	Quality of Life	Enjoy Life
SWB	Pearson Correlation	1	.925**	.580**	.672**
	Sig. (2-tailed)		.000	.000	.000
	N	79	79	79	79
Happiness	Pearson Correlation	.925**	1	.358**	.454**
	Sig. (2-tailed)	.000		.001	.000
	N	79	87	82	83
Quality of Life	Pearson Correlation	.580**	.358**	1	.325**
	Sig. (2-tailed)	.000	.001		.001
	N	79	82	109	106
Enjoy Life	Pearson Correlation	.672**	.454**	.325**	1
	Sig. (2-tailed)	.000	.000	.001	
	N	79	83	106	111
**. Correlation is significant at the 0.01 level (2-tailed).					

Four measures of self reported wellbeing have been identified in this study, namely self-reported happiness, quality of life, enjoyment of life and satisfaction. The composite variable Subjective Wellbeing (SWB) does not correlate with either satisfaction or self-reported happiness. This is due to the different meanings of these concepts: Satisfaction seems to be a more superficial measure as a person's satisfaction with life has little bearing on their happiness. Although Enjoyment of Life and Quality of Life are 'higher level or deeper' indicators of Happiness.

**Table 115: Correlation between SWB, Satisfaction and Enjoyment of Life**

		SWB	SATISFACTI ONRev	Enjoy Life	Quality of Life	Happiness
SWB	Pearson Correlation	1	.011	.549**	.329**	.832**
	Sig. (2-tailed)		.909	.000	.000	.000
	N	115	115	111	109	87
SATISFACTIONRe v	Pearson Correlation	.011	1	.232*	.274**	.111
	Sig. (2-tailed)	.909		.014	.004	.305
	N	115	118	111	109	87
Enjoy Life	Pearson Correlation	.549**	.232*	1	.325**	.454**
	Sig. (2-tailed)	.000	.014		.001	.000
	N	111	111	111	106	83
Quality of Life	Pearson Correlation	.329**	.274**	.325**	1	.358**
	Sig. (2-tailed)	.000	.004	.001		.001
	N	109	109	106	109	82
Happiness	Pearson Correlation	.832**	.111	.454**	.358**	1
	Sig. (2-tailed)	.000	.305	.000	.001	
	N	87	87	83	82	87

\*\* . Correlation is significant at the 0.01 level (2-tailed).

**Table 115: Correlation between SWB, Satisfaction and Enjoyment of Life**

		SWB	SATISFACTI ONRev	Enjoy Life	Quality of Life	Happiness
SWB	Pearson Correlation	1	.011	.549**	.329**	.832**
	Sig. (2-tailed)		.909	.000	.000	.000
	N	115	115	111	109	87
SATISFACTIONRe v	Pearson Correlation	.011	1	.232*	.274**	.111
	Sig. (2-tailed)	.909		.014	.004	.305
	N	115	118	111	109	87
Enjoy Life	Pearson Correlation	.549**	.232*	1	.325**	.454**
	Sig. (2-tailed)	.000	.014		.001	.000
	N	111	111	111	106	83
Quality of Life	Pearson Correlation	.329**	.274**	.325**	1	.358**
	Sig. (2-tailed)	.000	.004	.001		.001
	N	109	109	106	109	82
Happiness	Pearson Correlation	.832**	.111	.454**	.358**	1
	Sig. (2-tailed)	.000	.305	.000	.001	
	N	87	87	83	82	87

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\* . Correlation is significant at the 0.05 level (2-tailed).

Overall, the majority of respondents are relatively happy (based on respondents' self-rated happiness, where most respondents score between six and eight). With regards to self-rated quality of life, the majority rate their quality of life neither poor nor good (63%). Half the respondents enjoy life quite a lot (self-rated).

When rating their satisfaction with the dimensions of wellbeing, the majority of respondents are satisfied with their physical, financial, occupational, social, spiritual and mental wellbeing. However, the majority of respondents are only fairly satisfied with their educational and environmental wellbeing. Respondents rate the following life principles most important: freedom, family life and responsibility. On the other hand, they rate reciprocity, friendship and generosity least important. In terms of social capital, key ingredients are reciprocity, mutual support and cooperation therefore it is likely that the low ratings for these life principles will reduce social capital within the community.

In general, self-rated satisfaction ranges between 10 and 32, although the average score is 25. Therefore, most Bakgatla seem to be satisfied with their lives. however, the older they get, the less satisfied they are. Men tend to be more satisfied than women.

## **5. CORRELATIONS BETWEEN WELLBEING COMPOSITE VARIABLES AND THE SUBJECTIVE WELLBEING COMPOSITE VARIABLE**

In order to numerically quantify the relationship between all major variables, i.e. physical wellbeing, mental wellbeing, social wellbeing, spiritual wellbeing, occupational wellbeing, educational wellbeing, environmental wellbeing, occupational wellbeing, financial wellbeing or income and SWB, Pearson's Correlation Coefficients testing was conducted. Furthermore, the relationship between governance and the major variables was tested. In order to conduct the test, each of the major variables was represented using the composite variables previously discussed.

The correlations show significant (at the 5% level i.e. 95% confidence in the relationship), positive relationships between the following variables:

- Income and Educational level (0.437)
- Social wellbeing and environmental wellbeing (0.430)
- Income and employment security (0.425)
- Income and social wellbeing (0.373)
- SWB and social wellbeing (0.342)
- Physical wellbeing and employment security (0.331)
- Income and mental wellbeing (0.324)
- Educational level and employment security (0.292)
- Mental wellbeing and employment security (0.283)
- Income and environmental wellbeing (0.276)
- SWB and physical wellbeing (0.254)
- Mental wellbeing and social wellbeing (0.252)
- Educational level and social wellbeing (0.229)
- Educational level and physical wellbeing (0.218)
- Educational level and environmental wellbeing (0.218)
- SWB and employment security (0.217)
- Employment security and environmental wellbeing (0.211)
- Educational level and mental wellbeing (0.197).

While significant negative relationships exist between:

- Environmental wellbeing and governance (-0.368)
- Social wellbeing and governance (-0.206).

In order to identify possible patterns and sub-sets of relationships, a mapping exercise was conducted where each element with significant correlations was plotted, connecting

correlated variables to one another. The findings are that the Education, Employment Security and Social Capital composite variables are all connected to six other variables. Income and Environment are connected to five others, Mental to four followed by SWB and Physical by three connections each and lastly, Governance, with two connections (both of these are negative relationships). Spiritual wellbeing has no significant relationship with any of the other composite variables, including SWB and Income.

The assumption has been made that in terms of the strength of relationships, two clusters or core sub-sets of relationships exist. As the highest correlation is between Income and Educational Level (0.437), the first cluster consists of Education, Income and Employment Security. This is related to traditional economic rationality. Although the direction of causation cannot be proven in this study, the literature suggests that increasing levels of education results in more highly skilled jobs. Therefore, it is assumed that more educated members of the Bakgatla nation tend to earn more income and tend to have higher levels of employment security.

The second highest correlation is between Social and Environmental Wellbeing (0.430) and thus a second cluster, more closely related to principles of sustainable development, is assumed to exist between social wellbeing, environmental awareness and happiness as the relationship between social wellbeing and happiness is also strong (0.342). Once more, even though causation cannot be proven, it is assumed that those members of the Bakgatla who have higher levels of social capital tend to have stronger connections to the environment and they tend to be happier than those with lower levels of social capital.

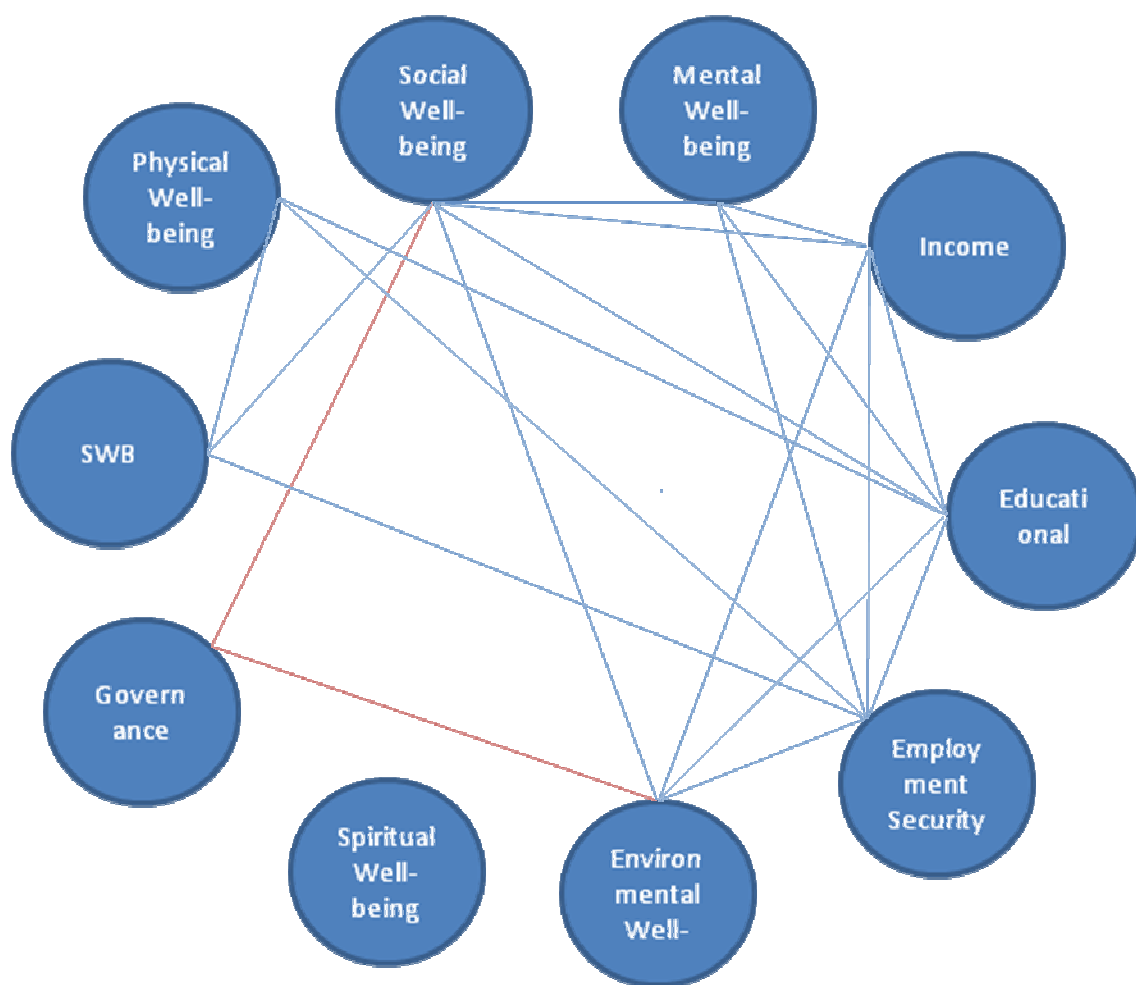
The correlation between Social Wellbeing and Education Levels is relatively strong (0.229) implying that either people with higher levels of social capital tend to be better educated or *vice versa*. The assumption is that these are crucial elements in the model as they provide the link between the traditional economic rationality cluster and the sustainable development cluster. However, social wellbeing and educational levels seem to be operating in parallel but with different, unrelated outcomes – either increased subjective wellbeing or increased income.

What is noteworthy is that respondents with higher levels of Environmental and Social Wellbeing tend to have lower levels of trust in the government and public institutions. Viewed differently, the more people trust the government, the less social capital they have and the lower their connectedness with the environment. An insignificant positive correlation between income and SWB exists.

**Table 116: Correlations between Wellbeing Variables**

	Income Received	Educational Level	Physical	Mental	Social	Spiritual	Employment Security	Environ	Govern	SWB
Income Received	1	0.437	0.137	0.324	0.373	0.02	0.425	0.276	-0.09	0.098
Educational Level		1	0.218	0.197	0.229	0.025	0.292	0.218	0.083	-0.068
CompPHYSICAL			1	0.114	0.104	-0.053	0.331	0.106	0.11	0.254
CompMENTAL				1	0.252	-0.047	0.283	0.168	-0.122	0.034
CompSOCIAL					1	0.167	0.199	0.43	-0.206	0.342
CompSPIRITUAL						1	-0.005	-0.097	-0.01	0.039
EmplomentSecurity							1	0.211	0.03	0.217
CompENVIRON								1	-0.368	-0.027
CompGOVERN									1	0.177
CompSWB										1

**Figure 15: Mapping Correlations**





## 6. HYPOTHESIS TESTING

### 6.1. Multiple Regression Analysis with All Wellbeing Composite Variables

The correlation analysis examined the strength of the association between variables and the regression analysis quantifies the underlying structural relationship between variables. Thus, in order to answer the research question and test the null hypothesis, a model or multiple regression analysis has been conducted using the equation below.

$$Y = \alpha + \beta^1 X^1 + \beta^2 X^2 + \dots + \beta_k X_k + e$$

The model is acceptable as the  $R^2$ , or the measure of fit of the regression model, is 0.286 i.e. 28% of the variance in Happiness can be explained by the independent variables.

Statistically significant<sup>14</sup> Standardized Beta's calculated in the regression analysis for the composite variables are Social wellbeing (0.464), Educational level (-0.226), Governance (0.205) and Physical wellbeing (0.194). Although we can't assume a cause-and-effect relationship between SWB and the significant composite variables, the assumption is that *ceteris paribus*:

- Happy people tend to have higher levels of social wellbeing or social capital;
- The more educated people are, the less happy they are;
- The more trust people have in public institutions and the state, the happier they are; and
- Happy people tend to be healthier.

Therefore, holding all other explanatory variables constant, we assume that income has no bearing on subjective wellbeing. Therefore the Null hypothesis that the Bakgatla's progress is not determined by the eight dimensions of wellbeing namely physical, mental and emotional, spiritual, financial, occupational, environmental, social and intellectual wellbeing but purely determined by their annual per capita income, is rejected.

---

<sup>14</sup> The significant levels are all below .05, which means that there is a 95 percent probability that the independent variable influences the dependent variable either positively or negatively, depending on the beta coefficients.

**Table 117: Multiple Regression Analysis Summary**

<b>Model Summary</b>										
Model		R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
						R Square Change	F Change	df1	df2	Sig. F Change
dimension 0	1	.535 <sup>a</sup>	0.286	0.227	3.34577	0.286	4.846	9	109	0
a. Predictors: (Constant), EmplomentSecurity, CompSPIRITUAL, CompGOVERN, Educational Level, CompMENTAL, CompPHYSICAL, CompSOCIAL, Income Received, CompENVIRON										

**Table 118: Coefficients of Multiple Regression Analysis**

<b>Coefficients<sup>a</sup></b>						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.730	4.101		.178	.859
	Income Received	6.227E-7	.000	.007	.074	.941
	<b>Educational Level</b>	-.710	.287	<b>-.226</b>	-2.478	<b>.015</b>
	<b>CompPHYSICAL</b>	.639	.287	<b>.194</b>	2.226	<b>.028</b>
	CompMENTAL	-.036	.055	-.057	-.647	.519
	<b>CompSOCIAL</b>	.318	.066	<b>.464</b>	4.791	<b>.000</b>
	CompSPIRITUAL	-.078	.179	-.036	-.434	.665
	CompENVIRON	-.141	.095	-.146	-1.477	.143
	<b>CompGOVERN</b>	.115	.051	<b>.205</b>	2.269	<b>.025</b>
	EmplomentSecurity	.559	.357	.146	1.568	.120
a. Dependent Variable: CompHappiness						

However, the additional complexity is that some dimensions do play a significant role or have a significant impact on SWB while others play no role at all, thus the alternative hypothesis cannot be accepted in total. Furthermore, a closer look at the relationships underlying the four composite variables (correlations) that are predictors of SWB indicate

that social wellbeing is correlated to environmental wellbeing and income so the assumption is that respondents who had higher levels of social wellbeing are likely to be more aware of environmental issues. However, the relationship between environmental wellbeing, income and education are positively correlated. A high negative correlation (-0.368) between Environmental Awareness and Governance implies that the higher the Environmental Awareness, the lower the trust in Government.

## 6.2. Multiple Regression Analysis with Significant Variables

An additional multiple regression analysis was conducted with the significant variables identified through the original hypothesis testing. The result is that  $R^2$  is 0.252 or that 25.2% of the variance in SWB can be explained by the equation. The significant F-statistic of 8.85 describes the 'goodness of fit', which is high and linear. As per the previous regression analysis, the Beta coefficients describe the effect of the independent variables on the dependent variable of SWB. In other words, an increase of one in Social capital means an increase of .417 in happiness. Note that education has a negative sign and that a decrease of 1 in Education would mean an increase in Happiness of .226. Thus, members of the Bakgatla nation who have high levels of social capital, who trust the government and public institutions, and are healthy and have lower educational levels, are happier.

Model Summary					
Model		R	R Square	Adjusted R Square	Std. Error of the Estimate
dimension0	1	.502 <sup>a</sup>	0.252	0.224	3.39711
a. Predictors: (Constant), CompGOVERN, Educational Level, CompPHYSICAL, CompSOCIAL					

## ANOVA<sup>b</sup>

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	408.528	4	102.132	8.850	.000 <sup>a</sup>
Residual	1211.736	105	11.540		
Total	1620.264	109			

a. Predictors: (Constant), CompGOVERN, Educational Level, CompPHYSICAL, CompSOCIAL

**ANOVA<sup>b</sup>**

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	408.528	4	102.132	8.850	.000 <sup>a</sup>
Residual	1211.736	105	11.540		
Total	1620.264	109			

a. Predictors: (Constant), CompGOVERN, Educational Level, CompPHYSICAL, CompSOCIAL

b. Dependent Variable: CompHappiness

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-2.069	2.517		-.822	.413
	Educational Level	-.711	.280	-.226	-2.545	.012
	CompPHYSICAL	.689	.289	.207	2.383	.019
	CompSOCIAL	.284	.062	.417	4.619	.000
	CompGOVERN	.142	.048	.257	2.939	.004

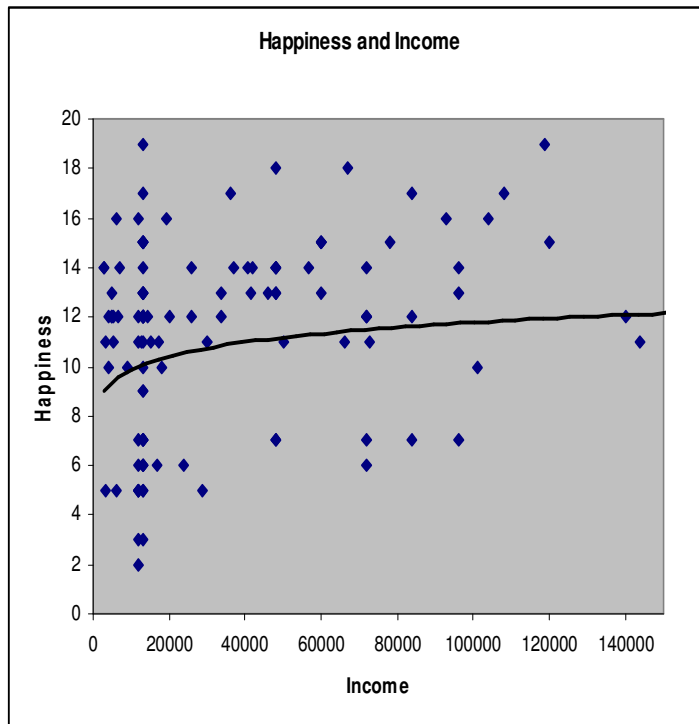
a. Dependent Variable: CompHappiness

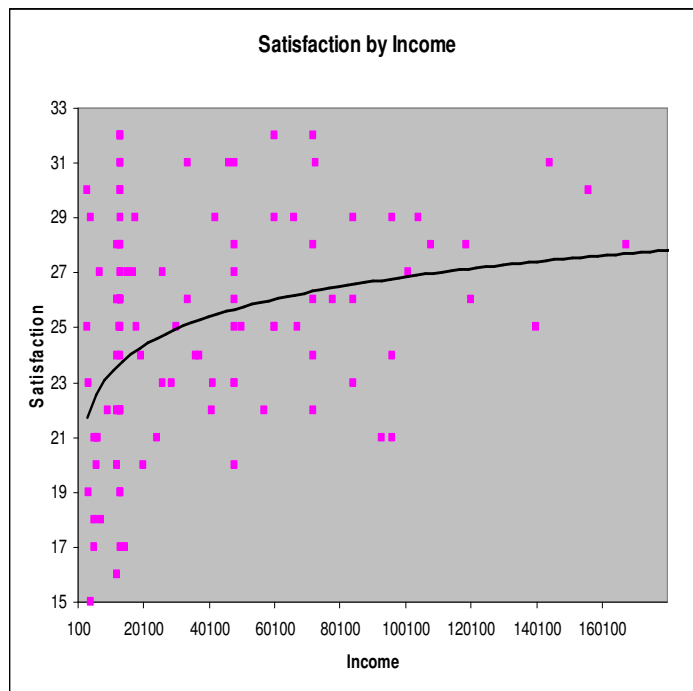
**6.3. Further exploration of the relationship between SWB and Income**

As described in the literature review, global patterns tend to find that the relationship between SWB and income seems to be a 'power curve' relationship rather than a linear relationship. In other words, the initial increase in happiness as income increases is pronounced but 'flattens' somewhat as a higher level of income is reached and even diminishes as very high levels of income are achieved. *nef* (2004.) finds that the critical turning point or point where income has a diminishing rate of return on Satisfaction is around US\$10 000 GDP per Capita. This corroborates Manfred Max-Neef and Abraham Maslow's Human needs theories. While Maslow proposes that a hierarchy of needs for human beings which require that basic needs are met before higher needs can be met; Max-Neef suggests an alternative view which proposes that there are a number of human universal needs that are integrative and additive (New Economics Foundation, 2004.).

This complex relationship between SWB and income that has been seen globally does not seem to differ from the findings of this study. Both SWB and the composite variable of life satisfaction have been plotted against income and both relationships show the characteristic power curve with the tipping point or point where the curve begins to flatten out is at an income of approximately R20 000 per annum.

**Figure 16: The Bakgatla Relationship between SWB and Income**



**Figure 17: Bakgatla Relationship between Satisfaction and Income**

A further test on the effect of income on SWB and satisfaction was conducted by disaggregating income into three groups or classes (Low – up to R12 960, Middle – R12 961 to R50 000 and High – above R50 000). A diminishing rate of return was found between income and other variables – the higher the ‘class’ or income level the more respondents tend to enjoy life, have higher reported quality of life, and self-reported life satisfaction. However, the increases from low to middle income are much higher than from middle to high income i.e. diminishing rate of return. An exception to these correlations was that respondents earning between R12 961 and R50 000 tended to have the lowest levels of self-reported happiness (6.8 versus 7.05 and 7.4).

An ANOVA analysis between the three income groups and the composite variables was conducted and this indicates that most wellbeing variables increase as income levels increase. The exceptions are the spiritual wellbeing and governance composite variables which are both lowest in the middle income group.

From the observations and statistics calculated above, it seems as if SWB is not directly related to income. However, SWB is probably influenced indirectly by income because SWB and life satisfaction do increase once a minimum income is available to meet basic needs. Thus we can conclude that both GDP and SWB or Happiness indicators are required as measures of progress.

**Table 119: The Correlation between SWB, Satisfaction and Income Classes**

Mean					
IncomeClass	Enjoy Life	Happiness	Quality of Life	CompHappiness	SATISFACTIONRev
Low Income	2.6250	7.0455	2.9000	10.1875	21.4286
Middle Income	3.0690	6.8000	3.1429	11.9655	25.0345
High Income	3.1481	7.3704	3.5862	12.5161	26.7419
Total	2.9318	7.0811	3.2069	11.5326	24.2632

**Table 120: ANOVA between composite variables and income classes**

	Low Income	Middle Income	High Income	Total
<b>Income Received</b>	9064.8*	34482.8*	98462.6*	45995.9*
<b>Educational Level</b>	1.9*	2.0*	3.0*	2.3*
<b>CompPHYSICAL</b>	2.8	3.0	3.3	3.0
<b>CompMENTAL</b>	58.6*	60.7*	63.0*	60.7*
<b>CompSOCIAL</b>	34.1*	36.7*	38.7*	36.4*
<b>CompSPIRITUAL</b>	8.5*	7.7*	8.5*	8.3*
<b>Employment Security</b>	1.3*	2.1*	2.6*	1.9*
<b>CompENVIRON</b>	10.0*	12.8*	13.2*	11.9*
<b>CompGOVERN</b>	20.2	17.6	18.4	18.8

\*Significant at 5% Level

#### 6.4. Policy Implications

Sachs asks “How can our economic life be re-ordered to recreate a sense of community, trust, and environmental sustainability?” (Sachs, 2011). The policies or changes suggested as a result of this study, broadly focus on these aspects. Therefore, from a policy perspective, in order to increase happiness amongst the Bakgatla, authorities should focus on four key aspects: meeting basic needs; increasing social capital; increasing trust in the Bakgatla Tribal Authorities; and improving physical health within the Bakgatla nation. In addition, the underlying relationships identified through the regression and correlation

analysis, suggest that education and environmental wellbeing should also be focal points – increasing levels of education decrease happiness BUT the relationship between environmental wellbeing, income and education are positively correlated (as is the relationship between social wellbeing and environmental wellbeing).

With regards to meeting basic needs of all members of the Bakgatla, it is suggested that this is a priority for tribal income because until basic needs like healthcare, food and education are met, it is unlikely that all members of the Bakgatla will be able to attain happiness. A tribal register that identifies these members and assistance programmes to help them is proposed.

Suggested initiatives to improve social capital include developing more social clubs e.g. sewing clubs, cultural talks, folk tales evenings etc. Social clubs that involve physical exercise like a walking group for elders or young fathers' soccer teams would have the added benefit of increasing physical health within the population. Another suggestion is to hold a competition or build skills in members of the community who can be 'social entrepreneurs': these would be people who are sensitised and skilled to think about and shape social capital in society.

The fact the trust in government is important in shaping happiness has many policy implications. For example, government and especially the tribal authority should build trust and transparency (fairness, implementation of policies, delivery, etc.). One way of doing this is holding more frequent village and tribal meetings that encourage all local Bakgatla to attend and by increasing transparency when it comes to tribal income and expenditure.

Health policies and their delivery are critical. Using the WHO chronic diseases report as a guideline, health initiatives should focus on improving nutrition and diets through health talks and possibly cooking clubs, and improving school nutrition programmes; increasing physical exercise and decreasing substance abuse. As well as increasing opportunities for sport at school and in the community through clubs.

Although education has a negative relationship with SWB, it does have a positive correlation with both income and environmental wellbeing, therefore, education is important to meet basic needs but perhaps changes need to be made to the education curriculum. The suggested changes to the education curriculum would be a focus on providing people with the capacity to enjoy high levels of wellbeing. Such a curriculum may include 'skills for life' — positive attitude, dealing with stress, self-confidence, emotional literacy and self-esteem. It



might also include values, and a space for reflection. It would link not only to mental health issues but more strongly to environmental wellbeing and concerns.

Although the BBKTA has already identified education and skills development, healthcare, infrastructure, job creation and poverty alleviation as major priorities, they may need to reconsider the manner in which these are being rolled out, in light of this study (Bakgatla Ba Kgafela, 2011).

Possibly the biggest policy implication the Bakgatla need to investigate is balancing the needs of the current generation, with the needs of future generations. So while mining, certain types of agriculture and infrastructure may create jobs and bring the Bakgatla wealth and a certain amount of happiness; environmental destruction, crime and human health implications may outweigh these benefits and happiness for both the current and future generations.

#### **6.5. Limitations of the research**

The study has the following limitations:

- The study is limited in scope to just the Bakgatla, who are living in peri-urban and rural areas, and it should be rolled out to other communities in urban and rural areas and on a national basis in order to identify national policies that need to adapt
- This study and survey tool has specifically been geared towards the Bakgatla rather than South Africans in general and so some changes will be required and they won't be directly measurable
- The sample size is relatively small in comparison with the general population and the sample may not necessarily be representative as random sampling was conducted
- While cross-sectional studies have the ability to reveal important correlations between measures of subjective wellbeing and different socio-economic factors or life circumstances, longitudinal studies are required to identify patterns. The issue of adaptation may arise and these will only be identified in long-term studies.
- The main uncertainty for this research is that, only correlations - and not direction of causality - have been identified.
- It is also important not to confuse a focus upon wellbeing with a belief that this means a utilitarian commitment to 'maximising happiness'. Wellbeing is an important good in society, but not the only one and not everything else can be reduced to wellbeing. Agency (the ability to choose and even to make bad choices), social

justice and environmental sustainability are all crucial factors which must be part of the broader political framework within which wellbeing fits.

- From a broader perspective, the study has not fully explored the personal development aspect of wellbeing and this should be included in future studies for a more holistic approach.
- Finally, in order to prevent exploitation or misusing the information that approximately R20 000 per year is the Bakgatla's threshold for SWB, it is important to take into account the 'relative income' hypothesis as discussed in the literature review. In other words, individuals within a society derive satisfaction from relative rather than absolute levels of income. So if some people within the community earn or are able to consume far more than others, this will reduce SWB within that community.

## 7. CONCLUSIONS AND RECOMMENDATIONS

This thesis investigated subjective wellbeing or happiness as an alternative measure of progress, using the Bakgatla-Ba-Kgafela. The Null hypothesis specifically tested whether happiness was solely determined or measured by per capita income. The findings is that, holding all other explanatory variables constant, the Bakgatla's progress is not solely measured by their per capital income. Thus the Null hypothesis is rejected.

However, the alternative hypothesis cannot be fully accepted as only some of the dimensions of the major variables, i.e. physical wellbeing, mental wellbeing, social wellbeing, spiritual wellbeing, occupational wellbeing, educational wellbeing, environmental wellbeing, occupational wellbeing, financial wellbeing or income and governance do play a significant role or have a significant impact on SWB. The four composite variables that are predictors of SWB, *ceteris paribus*, are Social wellbeing (0.464), Education level (-0.226), Governance (0.205) and Physical wellbeing (0.194).

The correlation testing revealed an insignificant correlation between income levels and happiness. However, it did reveal two clusters of relationships: the cluster of traditional economic rationality and the cluster that follows the principles of sustainable development. These two clusters seem to function in parallel but are linked through educational and social wellbeing. In other words, those respondents with high levels of education, tend to fall into the traditional economic cluster; while those who have high levels of social wellbeing, tend to fall into the sustainable development cluster.

Further analysis of the relationship between income-SWB and income-life satisfaction in the study demonstrates a similar pattern to other global studies – that of a 'power curve' relationship. Thus happiness or SWB increases as income increases, until a certain point or tipping point is reached and then increases in income has a diminishing rates of return. For the Bakgatla, the tipping point or point where the curve begins to flatten out is at an income of approximately R20 000 per annum. This finding supports the human needs theories. Thus, until peoples basic needs are met, it is unlikely that they will want to or be able to achieve secondary or higher level needs.

From a policy perspective, in order to increase happiness and promote development amongst the Bakgatla there is a need to re-order economic lives to recreate a sense of community, trust, physical health and environmental sustainability (Sachs, 2011). Furthermore, there is a need to meet basic human needs. The correlation analysis identified education as having a relationship with income and occupational wellness therefore it is

proposed that education is important to meet basic needs but perhaps changes need to be made to the education curriculum with a strong focus on sustainable development.

The biggest policy implication that the Bakgatla need to consider is balancing the needs of the current generation, with the needs of future generations. So while mining, certain types of agriculture and infrastructure may create economic growth or more income for the Bakgatla and a certain amount of happiness; environmental destruction, crime and human health implications may outweigh these benefits and happiness in both the current and future generations. A continued obsession with income may lead the Bakgatla to ignore aspects of life that are important to human, social and environmental wellbeing, while increasing levels of inequality and anxiety (Sachs J. D., 2011; The Centre for Bhutan Studies, 2008).

It is clear that GDP, as the economic indicator of economic growth, is not necessarily the best way to measure an economy's progress and it is an unsustainable path to follow. Although a number of alternative measures of progress have been proposed, a universal measure has not yet been adopted. The subjective measure of wellbeing or happiness is a real possibility as an alternative measure of progress.

However, before happiness is adopted as a measure of progress it requires more refinement. Future recommended research should focus on identifying causality amongst the composite variables; conducting longitudinal research; conducting studies in other areas and communities to develop and tailor policies and solutions to local areas and to compare studies to one another; conduct a national study and compare the results to local studies in order to test whether focusing on some policy initiatives will compromise happiness in other communities; focusing on the personal development aspect of wellbeing, as well as encouraging further research on environmental-personal wellbeing links and finally, future research should be conducted on developing educational curricula to focus on personal wellbeing.

## REFERENCE LIST

- Africa Legal Brief. (2010, October 29). *Unrest as Botswana Court Remands Traditional Chiefs in Custody*. Retrieved August 15, 2011, from Africa Legal Brief: [www.africalegalbrief.com](http://www.africalegalbrief.com)
- Altman, M. (2010). Household Food and Nutrition Security. *Agrekon Launch*. Pretoria: HSRC.
- Anielski, M. (2011, November/ December). Genuine Wealth. *Resurgence* , pp. 26-27.
- April, A. (2010, December 12). *Chief Sold Us Out, Say Bakgatla Tribe*. Retrieved February 11, 2011, from Sunday World: <http://www.sundayworld.co.za/Home/Article.aspx?id=1182289>
- April, A. (2011, January 16). *Royal dispute tribe spurn kgosi* . Retrieved February 18, 2011, from Sunday World: <http://www.sundayworld.co.za>
- Bafokeng Land Buyers Association. (2009). *Bafokeng Land Buyers Association*. Retrieved October 24, 2010, from Bafokeng Communities Blogspot: <http://bafokeng-communities.blogspot.com/>
- Bakgatla Ba Kgafela. (2009). Retrieved February 3, 2011, from Bakgatla Ba Kgafela: <http://www.bakgatlabakgafela.co.za>
- Bakgatla Ba Kgafela Administration. (Unknown). *Company Profile*. Saulspoort/ Moruleng.
- Bakgatla Ba Kgafela. (2011, February 11). *Bakgatla Ba Kgafela*. Retrieved from <http://www.bbcta.co.za>
- Bekker, M. (2011, August). Personal Communication. Phokeng, South Africa.
- Bench Marks. (2007). *The Policy Gap: Review of the corporate social responsibility programs of the platinum mining industry in the platinum producing region of the North West Province*. Unknown: The Netherlands Institute for South Africa and Peace, Principles and Participation Initiative.
- Bojanala Platinum District Municipality. (2010). *2010/2011 Integrated Development Plan*. Rustenburg.
- Braun, A. (2009). *Gross National Happiness in Bhutan: A Living Example of an Alternative Approach to Progress*. Pennsylvania: Wharton University of Pennsylvania.

Chidester, D., Dexter, P., & James, W. (2003). Conclusion: social cohesion in South Africa. In D. Chidester, P. Dexter, & W. James (Eds.), *whatholdustogether: Social cohesion in South Africa* (pp. 323-338). Cape Town: HSRC Press.

Cohn, S. (2006). Re Measuring Economic Activity: Heterodox Critiques of the GDP Accounting. In S. Cohn, *Reintroducing Macroeconomics: A critical approach* (pp. 76-87). M.E. Sharpe.

Cook, S. (2011, January 25). Personal Communication: Gillian Hamilton Masters Research. Phokeng, South Africa.

Crook, C. (2011, July 1). *The Measure of Human Happiness*. Retrieved January 26, 2012, from The Atlantic: <http://www.theatlantic.com/international/archive/2011/07/the-measure-of-human-happiness/241368/>

Daly, H. (2011, November/ December). True Measures of Wellbeing & Welfare. *Resurgence* , pp. 28-29.

Dawson, J. (2011, November/ December). A New Wellbeing Initiative. *Resurgence* , p. 50.

Department of Water Affairs. (2011, June). *My Water*. Retrieved August 20, 2011, from Department of Water Affairs, Republic of South Africa: [http://www.dwa.gov.za/dir\\_ws/DWQR/Default.asp?PageID=7&PageHeading=My Water](http://www.dwa.gov.za/dir_ws/DWQR/Default.asp?PageID=7&PageHeading=My Water)

Department of Water Affairs, Republic of South Africa. (2010). *Blue Drop Report 2010: South African Drinking Water Quality Management Performance*. Pretoria: Department of Water Affairs.

Devall, B., & Sessions, G. (1985). Deep Ecology. In S. Harding, *Animate Earth*.

Easterlin, R. (1974). Does Economic Growth Improve the Human Lot? Some Empirical Evidence. *University of Pennsylvania* , 89-125.

European Association for Evolutionary Political Economy. (Unknown). *Human Development and Institutions* . Retrieved October 3, 2010, from European Association for Evolutionary Political Economy: <http://eaepe.org/node/29>

- Fourie, F. (1999). *How To Think and Reason in Macroeconomics*. Cape Town: Juta.
- Gaotlhobogwe, M. (2010, November 5). *Thari Pilane Wants Bakgatla Throne*. Retrieved February 18, 2011, from Mmegi Online: <http://mmegi.bw>
- Gills, B. K. (2010). Going South: capitalist crisis, systemic crisis, civilisational crisis. *Third World Quarterly* , 169-184.
- Gosh, J. (2011, November/ December). Sustainable Wellbeing. *Resurgence* , pp. 30-31.
- GPIAtlantic. (2007, September 14). Retrieved October 2, 2010, from Genuine Progress Index for Atlantic Canada / Indice de progrès véritable – Atlantique: <http://www.gpiatlantic.org/>
- Health24. (2009, July 9). *Mental Health*. Retrieved September 13, 2011, from Health24: <http://health24.co.za>
- Herman, A., Stein, D., Seedat, S., Heeringa, S., Moomal, H., & Williams, D. (2009). The South African Stress and Health (SASH) study: 12-month and lifetime prevalence of common mental disorders. *South African Medical Journal* , 339-344.
- Hodge, T. (1997). Toward a Conceptual Framework for Assessing Progress Toward Sustainability. *Social Indicators Research* , 40, 5-98.
- Holden, R. (2011, November/ December). The Gift of Happiness. *Resurgence* , pp. 9-11.
- Hopwood, B., Mellor, M., & O'Brien, G. (2005). Sustainable Development: Mapping Different Approaches. *Sustainable Development* , 13, 38-52.
- Human, P. (2011, October 25). Personal Communication. France.
- Jones, P. (2011, November/ December). Steps Towards Happiness. *Resurgence* , pp. 40-43.
- Juniper, T. (2011, November/ December). Which Way Now? *Resurgence* , pp. 37-39.
- Kahneman, D., Krueger, A., Schkade, D., Schwarz, N., & Stone, A. (2004). Toward National Wellbeing Accounts. *AEA Papers and Proceedings* (pp. 429-434). <http://www.krueger.princeton.edu>.

Kelebonye, G. (2011, January 13). *Will 2011 See Closure to the Bakgatla Case?* Retrieved August 15, 2011, from Mmegi Online: [www.mmegionline.co.bw](http://www.mmegionline.co.bw)

Keoreng, E. (2010, January 8). Botswana: Mochudi Floggings - Modernity, Culture Clash. *allAfrica.com*.

Koop, G. (2004). *Analysis of Economic Data*. Chichester: John Wiley & Sons, LTD.

Kotze, H., & Steenekamp, C. L. (2008). *Policy Paper No. 5: Democratic Consolidation in South Africa: Comparing Elite and Public Values*. Johannesburg: Konrad-Adenauer-Stiftung.

Kumar, S. (2011, November/ December). Wellbeing is Our Birthright. *Resurgence* , p. 1.

Layard, R. (2011, November/ December). A Better Way of Life. *Resurgence* , pp. 14-17.

Layard, R. (14 March 2005). Happiness and public policy: a challenge to the profession.

Layard, R. (2003). Happiness: Has Social Science a Clue? *Lionel Robbins Memorial Lectures 2002/3*. London: London School of Economics.

Layard, R. (2009). Why Subjective Wellbeing Should Be The Measure of Progress. *3rd OECD World Forum on "Statistics, Knowledge and Policy"*. Busan, Korea: OECD World Forum.

Makgala, C. (2009). *History of the Bakgatla-baga-Kgafela in Botswana and South Africa*. Pretoria: Crink.

Marks, N. (2011, November/ December). Creating a Wellbeing Society. *Resurgence* , pp. 22-24.

Max-Neef, M. A. (2004). Foundations of Transdisciplinarity. *Ecological Economics* .

Mooketsi, L. (2010, January 11). *Botswana: Kgafela Vows to Crack the Whip*. Retrieved February 18, 2011, from Mmegi Online: [www.mmegionline.co.bw](http://www.mmegionline.co.bw)

Moses Kotane Local Municipality. (2007). Retrieved August 17, 2011, from Moses Kotane Local Municipality: <http://moseskotane.gov.za/>

National Accounts of Wellbeing. (2009). *What is wellbeing?* Retrieved October 25, 2010, from National Accounts of Wellbeing: <http://www.nationalaccountsofwellbeing.org>



New Economics Foundation. (2009). *The Happy Planet Index 2.0*. [www.happyplanetindex.org](http://www.happyplanetindex.org).

New Economics Foundation. (2004). *The Power and Potential of Wellbeing Indicators*. Unknown: nef.

Nexus. (No date). *Nexus Database*. Retrieved November 2, 2010, from Accessed through EBSCO

North West Department of Agriculture, Conservation and Environment. (2008). *North West Province: Environment Outlook, A report on the state of the environment*. Mafikeng: North West Department of Agriculture, Conservation and Environment.

Ntsebeza, L. (2005). *Rural Governance and Citizenship in Post-1994 South Africa: Democracy Compromised?* Cape Town, South Africa.

Otlogetswe, T. (2010, November 20). *Kgafela: Glimpses of a dangerously confused mind*. Retrieved February 18, 2011, from T.J. Otlogetswe: Lexicographer, corpus linguist & Translator: <http://otlogetswe.wordpress.com>

Pilane, K. N. (2009). *Foreword by the Chief*. Retrieved February 3, 2011, from Bakgatla Ba Kgafela: <http://www.bakgatlabakgafela.co.za/>

Powdthavee, N. (2007). *Causal Analysis in Happiness Research*. London: University of London.

Powdthavee, N. (2009, January). *Happiness and Wellbeing*. Retrieved September 29, 2011, from Beyond Current Horizons: <http://www.beyondcurrenthorizons.org.uk>

Rampell, C. (2008, October 30). *Alternatives to GDP*. Retrieved October 2, 2010, from Economix: Explaining the Science of Everyday Life: <http://economix.blogs.nytimes.com/>

SA National Planning Commission. (2011, June). *Diagnostic Report*. Retrieved September 7, 2011, from <http://www.saatheart.co.za>

Sachs, J. D. (2011, August 29). *The Economics of Happiness*. Retrieved September 13, 2011, from Project Syndicate: [www.project-syndicate.org](http://www.project-syndicate.org)

Sachs, J. D. (2009, March 20). *The Transition to Sustainability*. Retrieved August 11, 2010

Sapa. (2006, July 28). *Traditional leader in royalty fraud case*. Retrieved February 18, 2011, from IOL News: <http://www.iol.co.za>

Secombe, A. (2010, December 13). *Pallinghurst denies 'tricking' Bakgatla*. Retrieved February 18, 2011, from Business Day: <http://www.businessday.co.za>

Shiva, V. (2011, November/ December). Beyond Growth. *Resurgence* , pp. 44-45.

Snowdon, B., & Vane, H. R. (2005). *Modern Macroeconomics: Its Origins, Development and Current State*. United Kingdom: Edward Elgar.

Stiglitz, J. E., Sen, A., & Fitoussi, J.-P. (2009, September 14). *Report by the Commission on the Measurement of Economic Performance and Social Progress*. Retrieved February 10, 2010, from Commission on the Measurement of Economic Performance and Social Progress: <http://www.stiglitz-sen-fitoussi.fr>

Submission by Mrs Mary Mokgaetsi Pilane and Mr Mmothi Pilane of Bakgatla baKautlwale To Rural Development Portfolio Committee On The repeal of the Black Authorities Act Bill , Unknown (Mafikeng July 21, 2010).

Survey, E. S. (2009). *European Social Survey*. Retrieved October 25, 2010, from <http://www.europeansocialsurvey.org>

The American Institute for Stress. (2009). *Understanding Stress*. Retrieved September 13, 2011, from The American Institute for Stress: <http://www.stress.org/>

The Centre for Bhutan Studies. (2008). Retrieved September 14, 2010, from Gross National Happiness: <http://www.grossnationalhappiness.com/>

The Medical Wellness Association. (2004). *Defining Optimal Wellbeing*. Retrieved October 25, 2010, from The Medical Wellness Association: <http://www.medicalwellnessassociation.com/>

Tress, B., Tress, G., & Fry, G. (n.d.). *Defining Concepts and the Process of Knowledge Production in Integrative Research*. Retrieved January 22, 2012, from Learning for Sustainability: <http://learningforsustainability.net/research/interdisciplinary.php>

Trochim, W. (2006, October 20). *Research Methods Knowledge Base*. Retrieved November 4, 2010, from Research Methods Knowledge Base: <http://www.socialresearchmethods.net>

UNICEF South Africa and the Financial and Fiscal Commission of South Africa. (2010). *The Impact of the International Financial Crisis on Child Poverty in South Africa*. Pretoria: Unicef.

Wikipedia. (2011, July 11). *Rustenburg*. Retrieved February 11, 2011, from Wikipedia: <http://en.wikipedia.org/wiki>

World Health Organisation. (2011). *Global Status Report on Non-communicable Diseases 2010*. Geneva: World Health Organisation.

World Health Organisation. (2007). *Mental Health*. Retrieved September 13, 2011, from World Health Organisation: [www.WHO.org](http://www.WHO.org)

Van der Ryn, S., & Cowan, S. (1996). *Ecological Design*. Washington DC: Island Press.

## **ADDENDA**

### **ADDENDUM A: THE BAKGATLA-BA-KGAFELA**

#### **Introduction**

Although the focus of this thesis is an alternative measure of progress within the Bakgatla, it is important to locate this discussion within its environmental and socio-economic context. This literature review briefly documents the history and background of the Bakgatla.

#### **Background to the Bakgatla-ba-Kgafela**

The Bakgatla-ba-Kgafela (Bakgatla) traditional community or tribe forms part of the Sotho-Tswana cluster (Makgala, 2009). Although the early history and origins of the Bakgatla are not known, it seems as if the Bakgatla-ba-Kgafela seceded from the original group of Bakgatla, partly due to migration resulting from environmental conditions and partly due to a succession dispute (Makgala, 2009). As a result, modern day Bakgatla are split into five groups of which the Bakgatla-ba-Kgafela is one. The Bakgatla are found both in the Kgatleng District of Botswana and in the North West Province of South Africa (Makgala, 2009). The South African community is made up of approximately 350 000 members in 32 villages, in the Moruleng district adjacent to the Pilanesberg Mountains (Pilane, 2009). Historically, the political, social and cultural practices of the Bakgatla have been similar to those of other Tswana speaking groups (Makgala, 2009) and many common practices remain today. The Bakgatla were an agrarian society, and focused on cattle and crop cultivation for economic gain. Cattle were - and in some respects still are - a measure of economic wealth (Makgala, 2009).

Politically, the Bakgatla were led by the tribal leader or chief, known as the kgosi or king. This was a hereditary office passing from the father to the son of the first wife (Makgala, 2009). The kgosi had a number of advisors, usually his uncles, and a tribal council to assist him in his duties. He was customarily responsible for making and enforcing laws, regulating trade, distributing land, and controlling agricultural practices like harvesting or ploughing (Makgala, 2009). He was also responsible for religious rituals such as rain-making (Makgala, 2009).

Each village was represented at the Kgosi's tribal council by the village headman or kgosana. The kgosana together with his advisors, administered local affairs (Makgala, 2009). Traditionally a polygamist society, the most important social unit of each village was the family or household and social activities generally took place within households (Makgala, 2009). Members of the same household assisted each other or other households through organised work parties (Makgala, 2009). Socially, household elders told folk tales,

riddles and proverbs for both education and entertainment. More recently choral singing and singing competitions have become important social activities (Makgala, 2009).

Cultural practices for the Bakgatla included initiation for both males and females (bogwera for males and bojale for females) normally held during their adolescence. Male initiation included circumcision, the teaching of the customs and values of their tribe, history, and traditions, discipline, the importance of tribal meetings, how to value and take care of cattle and many physical activities. Boys were also taught about sexual relations with girls, the role of the husband in marriage and the dangers of promiscuity. The initiation took place over about three months (Makgala, 2009). For women, initiation included instructions on domestic matters, marriage, parenting, agricultural tasks and sexual matters. They were taught traditions, customs etc (Makgala, 2009). Until adolescents had undergone initiation they were treated as minors, could not participate in tribal meetings and nor were they allowed to marry (Makgala, 2009).

### **History of the Bakgatla**

Before colonial settlers arrived in the North West Province, the area had been settled by agrarian Setswana-speaking tribes for several hundred years. In the early 1800s, Tswana communities were conquered in a series of devastating wars launched by the Matabele, an offshoot of the Zulu kingdom. The Boers had also fought the Zulu and Matabele, and so the Boers and Tswana found a common enemy in the Matabele. The Tswana and Boers worked toward driving the Matabele from the Sotho-Tswana kingdom to the south and, together, they defeated the Matabele. When the Boers founded the Republic of Transvaal in 1850s, the relationship between Bakgatla and Boers was relatively amicable. In the early 1860s the Dutch Reformed Church missionary, Rev. Henry Gonin, began working among the Bakgatla, and the result was adoption of European values such as Christianity and the end of polygamous marriages. The missionaries also began educating the Bakgatla.

Although the Bakgatla had occupied the land before the Boers arrived, they had to buy land rights from the Boers, assisted by Paul Kruger, who would become the president of the Transvaal Boer Republic. However, the relationship between the Boers and the Bakgatla deteriorated in the late 1860s due to economic hardships, partially as a result of the decline in game caused by overgrazing. The Boers annexed territory which belonged to the Bakgatla and began demanding cash and livestock, implemented taxes and forced the Bakgatla into unpaid labour (Makgala, 2009). In April 1870, Paul Kruger publicly flogged, insulted and humiliated the Bakgatla Kgosi, Kgamanyane, for disobedience when the Kgosi refused to

provide more labour (Gaotlhobogwe, 2010). As a result the Boers became intensely hated among the Batswana (Makgala, 2009).

Kgamanyane and some of his followers fled to Mochudi in Botswana (Gaotlhobogwe, 2010; Makgala, 2009) but some Bakgatla remained, under Kgamanyane's brother's leadership (Makgala, 2009). In an attempt to regain their land, the Bakgatla fought for the British during the Anglo-Boer war of 1899-1902, most notably at the Battle of Derdepoort (Makgala, 2009). However, the British did not officially recognise their assistance and the Bakgatla's hopes did not materialise (Makgala, 2009). The Kgosi was forced to continue buying farms from the Boers for the settlement of his landless Bakgatla in the Transvaal. (Makgala, 2009, p. 162).

The majority of farms were purchased after the South African War using the cattle amassed in raids and fees levied by Kgosi Linchwe on Bakgatla returning from mines in Kimberly and Witwatersrand (Makgala, 2009). But buying land was difficult due to the Transvaal Native Policy which did not recognise an African's right to land ownership and therefore the land was registered in a trust (Makgala, 2009).

Many more Bakgatla crossed over to the Bakgatla villages in Botswana as the trust farms were insufficient for settlement (Makgala, 2009). In the meantime, Botswana was declared British territory. The Bakgatla king in Botswana was granted permission to appoint a representative in the Transvaal to lead the South African Bakgatla. Ties between the Bakgatla in Botswana and those in Moruleng (the capital of the South African Bakgatla), South Africa continued through intermarriage and the observance of rituals such as funerals, weddings etc. with families across the border (Makgala, 2009).

During Apartheid, despite the resistance by the Bakgatla, their land was incorporated into the South African homeland of Bophuthatswana under the leadership of Lucas Mangope (Makgala, 2009). During this time, the Pilanesberg National Park and Sun City were established, bordering on Bakgatla land (Makgala, 2009). After the reincorporation of the homelands into South Africa in 1994, the Bakgatla retained their traditional authority.

## **Governance**

The Bakgatla-ba-Kgafela governance follows traditional authority principles. Ntsebeza (2005) highlights the powers traditional authorities have within South Africa as a democracy (Ntsebeza, 2005). Tribal authorities were created during Apartheid and were "unaccountable, undemocratic and despotic": Ntsebeza (2005) believes that tribal authorities together with the Communal Land Rights Act perpetuate the legacy of apartheid and is at

odds with the principle of a democratic South Africa because tribal authorities and their tribal councils are led by unelected leaders (chiefs and headmen) and have extensive powers over land administration and allocation. (Ntsebeza, 2005). Subsequently, rural citizens do not have the same rights as urban citizens in South Africa who elect their leaders (Ntsebeza, 2005). Furthermore, there is extensive evidence of tribal authorities abusing their authority in the land allocation process and it seems as if the Bakgatla are no exception (Ntsebeza, 2005).

The end of Apartheid and the fall of Bophuthatswana coincided with the Bakgatla succession dispute. In 1993 Kgosi Tidimane Pilane had been in office for 44 years and was considered a despotic leader who grossly mismanaged tribal resources (Makgala, 2009). Tidimane Pilane wanted the South African Bakgatla to cede from the Bakgatla in Botswana and wanted his son to take over leadership in South Africa (Makgala, 2009). However, the paramount chief nominated Nyalala Molefe John Pilane, Tidimane's nephew (Makgala, 2009).

The Bakgatla are one of the wealthiest tribes in South Africa but Seccombe (2010) points out: "Traditional communities have tended to break into factions, vying for the mineral wealth of their land." (Gaotlhobogwe, 2010; Seccombe, 2010). Subsequently, the succession battle continues: A faction within the Bakgatla accused Nyalala Pilane of not having the support of his people as well as not being the rightful heir (2010, p. 1; April, Royal dispute tribe spurn kgosi , 2011; Gaotlhobogwe, 2010). The succession and leadership issue of the Bakgatla went to the high court and Nyalala Pilane was confirmed as the legitimate kgosi of the Bakgatla and despite the continuing succession battles, he is the current Bakgatla kgosi (April, Royal dispute tribe spurn kgosi , 2011).

In Botswana, the Bakgatla Paramount Chief, Kgafela has been a controversial figure since coming into power in 2009. Kgafela, a former human rights lawyer, emphasised the restoration of traditional values and Setswana culture and was seen as a contemporary leader who values tradition. This is because the Bakgatla are grappling with the relationship between traditional and modern cultures as well as "social ills" which are seen as the result of modernisation and Westernisation (Keoreng, 2010; Kelebonye, 2011; Mooketsi, 2010; Otlogetswe, Kgafela: Glimpses of a dangerously confused mind, 2010

In a blog entry titled "Kgafela: Glimpses of a dangerously confused mind" Otlogetswe (2011) raises concern over Kgafela's behaviour as a leader and the impact on the Bakgatla and the rest of Botswana. "If nothing is done about the lawlessness in Mochudi, the country will



swiftly descend into anarchy.” (Otlogetswe, Kgafela: Glimpses of a dangerously confused mind, 2010). While some Bakgatla initially applauded the changes introduced by Kgafela, the hope that the Kgosi Kgolo’s subjects felt when he was first appointed is fading (Keoreng, 2010).

The succession debate has still not been resolved. In the case of the Bakgatla, the Kgosi Kgolo Kgafela's problems have given his enemies in Moruleng an opportunity to try and gain independence for the South African Bakgatla (Gaotlhobogwe, 2010).

### **Fraud and Corruption?**

Although Makgala (2009) states that “Nyalala has ensured that his administration in Moruleng is consultative, enlightened and progressive” (Makgala, 2009, p. 336), there have been repeated allegations of mismanagement and misappropriation of funds by the tribal administration (Makgala, 2009; Seccombe, 2010; Sapa, 2006) e.g. the attachment of assets after failing to repay the Land Bank for a loan of R13-million (Sapa, 2006). Members of the Bakgatla state that “We read about all these huge monies in the newspapers, but as the community we do not know where they are going to.” (April, Chief Sold Us Out, Say Bakgatla Tribe, 2010). He somehow still manages to control the mining revenue, of which our community has never seen a penny.” (Submission by Mrs Mary Mokgaetsi Pilane and Mr Mmothi Pilane of Bakgatla baKautlwale To Rural Development Portfolio Committee On The repeal of the Black Authorities Act Bill , 2010).

Bakgatla also indict Kgosi Pilane of abusing his power by controlling the local police station which interferes with the community’s human rights (Submission by Mrs Mary Mokgaetsi Pilane and Mr Mmothi Pilane of Bakgatla baKautlwale To Rural Development Portfolio Committee On The repeal of the Black Authorities Act Bill , 2010).

### **Bakgatla Development**

Bakgatla-owned land is situated in the western part of the Bushveld Igneous Complex, which is richly endowed with platinum deposits (Bakgatla Ba Kgafela Administration, Unknown). Due to this mineral wealth, the Bakgatla-ba-Kgafela tribe is relatively wealthy (Gaotlhobogwe, 2010; Bench Marks, 2007). The Bakgatla-ba-Kgafela Tribal Authority (BBKTA), a group of tribal representatives that advise the chief, acknowledge that “Our land is a resource for economic development” (Pilane, 2009) and has subsequently decided to leverage their natural resources and wealth for the Bakgatla’s economic and social development (Bakgatla Ba Kgafela Administration, Unknown). The BBKTA’s vision is to be an economically viable community that espouses development but takes the traditional



values of “BOTHO”<sup>15</sup> into account (specifically professional development and service delivery; professional and ethical conduct of all employees; leadership and participation in service delivery and execution of their mandate) (Bakgatla Ba Kgafela, 2009). Pilane notes that the Tribal authority wants to create an economically independent community and “...improve the quality of life of all its communities and create a basis for sustained economic growth.” (Bakgatla Ba Kgafela, 2009).

### **Economic Development**

The Bakgatla have established a few commercial vehicles for the tribe including Itireleng Bakgatla Mineral Resources (IBMR) and MAMPA Holdings. These companies have been established to focus on further prospecting on Bakgatla land for minerals; participate in mining operations and register land claims (Makgala, 2009). In addition to IBMR and MAMPA Holdings, BBK Management Services (BBKMS) has been established as the corporate division of the Tribal Authority. According to the literature, the role of BBKMS is to identify opportunities for development and to manage relationship with its partners in the public and private sectors (Bakgatla Ba Kgafela, 2011). It has also been identified as the first step towards finding synergy between traditional and corporate administration (Bakgatla Ba Kgafela, 2011).

The strategic objectives of BBKMS are to build and enhance the governance system to enable sustainable development and service delivery for all Bakgatla through developing a policy and regulatory framework for Dikgosana (village headmen) in all Bakgatla villages; to provide infrastructure and build the capacity of the villages to distribute basic services to the communities; to facilitate the active participation of the Bakgatla in mining and related activities and create a consortium responsible for taking up shareholding in the mines; to build and strengthen the capability of the Bakgatla (especially women) to participate equitably in the development of an industrial economy that feeds the needs of the mines in the area and, finally; to monitor and evaluate the impact of the strategic objectives in order to improve performance, increase accountability of and confidence in tribal governance (Bakgatla Ba Kgafela Administration, Unknown).

---

<sup>15</sup> Botho is the Setswana equivalent of Ubuntu. Botho is defined as a process of earning respect by first giving it to others and encourages social justice for all. The principle of botho encourages people to applaud rather than resent those who succeed (Unknown).

The BBKMS strategic plan has set timeframes from 2009 to 2014 (Pilane, 2009; Bakgatla Ba Kgafela, 2011). Although the majority of the Bakgatla's income is from mining, the strategy also focuses on agriculture and tourism as such industries contribute to employment, poverty alleviation and economic activity in the area (Bakgatla Ba Kgafela, 2011).

With regards to mining, BBKMS has forged and acquired joint ventures with a number of mining companies operating in the area. Of significance are joint ventures with Barrick Platinum SA (BPSA), Pallinghurst Investment Consortium (PIC), Anglo Plats and Platmin Mining. BBKMS is also involved in a number of prospecting developments (Bakgatla Ba Kgafela, 2011).

BBKMS currently owns percentages in the following mines or prospecting companies:

Mine	% Shareholder	Partnership	Status
Union Section	15%	Anglo Platinum	Operating PGM mine
Magazynskraal	46%	Pallinghurst and Anglo Platinum	Feasibility study being conducted after which mine development will commence
Sedibelo	90%	Barrick Platinum	Feasibility study completed; decision to mine expected
Pilanesberg	28%	Pallinghurst	Mine currently being developed
Rooderant	55%	Anglo Platinum	

(Bakgatla Ba Kgafela, 2009)

There has been less activity around agriculture but in partnership with PPC and Thabazimbi Local Municipality, an agricultural feedlot project has been planned (Bakgatla Ba Kgafela, 2009). In an attempt to revitalise the region's economy and create employment BBKMS has plans to establish a business incubator project to take advantage of mining activities (Bakgatla Ba Kgafela, 2009). BBKMS has also planned the development of a five-star hotel at the Pilanesberg Park Bakgatla Gate to increase the tourism efforts (Bakgatla Ba Kgafela, 2009). In 2009, BBKMS had also planned on investing in telecommunications (Bakgatla Ba Kgafela, 2009).

## **Community and Social Development**

Kgosi Pilane noted in 2009 that BBKMS aimed to ensure sustained economic growth and equitable distribution of wealth to all the BBK villages, however, the Bench Marks report noted that the distribution of wealth within tribes in the platinum-producing regions, particularly between royalty and commoners is very uneven and that still seems to be the case today (Pilane, 2009; Bench Marks, 2007).

Education and skills development, healthcare, infrastructure, job creation and poverty alleviation have been identified as major priorities for the Bakgatla and the BBKTA has a number of projects in the pipeline to address these priority areas. These include school improvement and bursary schemes and the revitalisation of health centres (Bakgatla Ba Kgafela, 2011).

Empowerment of Youth and Women is a focal point of the chief's wife or the Mmakgosi – Mrs. Lucy Pilane. Workshops have been planned to create awareness of political issues and women's rights. Furthermore, a women's cooperative has been planned to upskill women in business management and marketing. There are also plans for a micro credit project (Bakgatla Ba Kgafela, 2011). Social Welfare projects also fall under the office of the Mmakgosi. Her intention is to involve state social workers and the Department of Social Welfare to determine the needs of individuals and groups and providing support to hospices, orphanages, child-led homes, single mothers etc. They will also put appropriate programmes into place to alleviate poverty (Bakgatla Ba Kgafela, 2011).

## **Conclusion**

Although the focus of this thesis is an alternative measure of progress within the Bakgatla, it is important to locate this discussion within its environmental and socio-economic context. This literature review briefly documents the history and background of the Bakgatla.

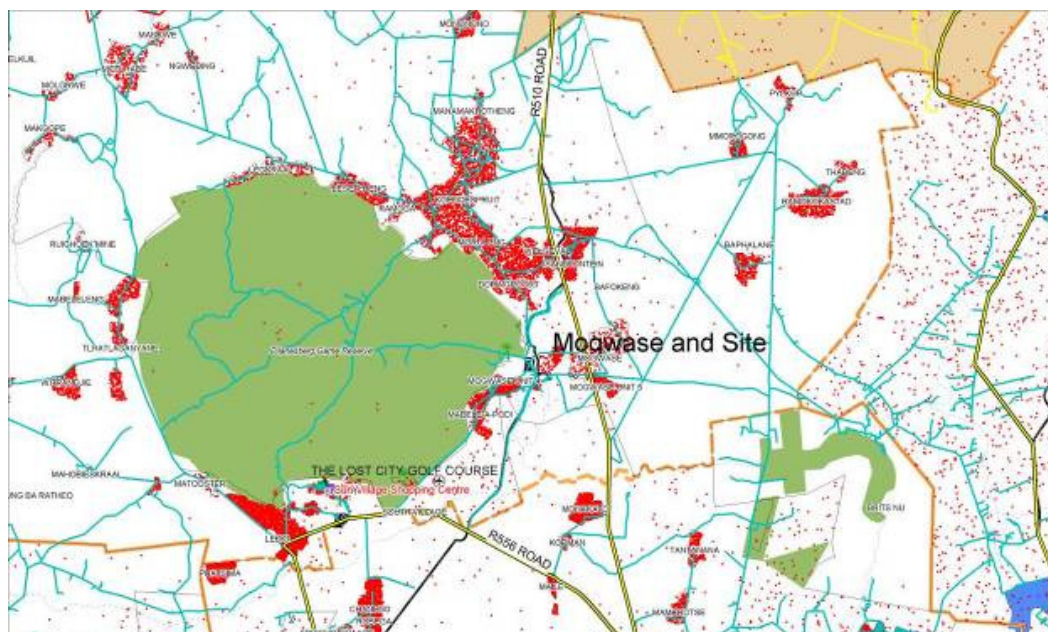
## ADDENDUM B: PHOTO STUDY OF LEROME

Lerome is situated North West of the town of Mogwase, adjacent to Pilanesberg National Park. The red dots on the map of Pilanesberg and surrounding areas indicate population density.

Figure 18: Map of Bojanala Platinum District Municipality



Figure 19: Map of Pilanesberg and surrounding areas





The village of Lerome is situated between Mogwase and the Bakgatla capital, Moruleng. At the entrance to Bakgatla tribal land, is a welcoming signpost picturing a smiling Chief Pilane. The road (R510) that runs through the village is a tar road that frequently has cattle and other livestock grazing alongside.

**Figure 20: The road to Lerome**



Moruleng is the South African capital of the Bakgatla. The tribal authorities administration is based in a new building in Moruleng. The Bakgatla totem is a monkey with a fire as seen in their branding. Chief Pilane requests the Bakgatla to follow the rule of law and maintain peace in their lands (“Molao-tolamo le kasigo”).

**Figure 21: Moruleng and the Bakgatla Administration**





Although Lerome has postal services, there is a limited amount of infrastructure. The pictures below show the reservoir that is being built in Moruleng (partially paid for by the Bakgatla) to service the surrounding villages. The windmill and dam pictured, are in the centre of Lerome and used to pump much needed water as the region is relatively arid. Residents do have access to electricity but many families do not have their own access to running water evidenced by the Bakgatla mother with children pumping water at communal tap and the pit latrines situated in residents' yards. Public transport services are infrequent and as few families own vehicles, the most common means of transport is by mini-bus taxi. Besides the main road, the remainder of the roads are dirt roads. The local cemetery is pictured on the following page.

**Figure 22: Lerome infrastructure**





Educational facilities in Lerome include a primary, middle and highschool that also service surrounding villages.

**Figure 23: Examples of education facilities in Lerome**





There are few fitness facilities in Lerome – the soccer field on the left is one example of a public facility and the “Fitness Palace” on the right is an example of a private facility.

**Figure 24: Fitness facilities in Lerome**



Health facilities include the George Stegman Hospital (note the sign on the wall warning patients to be careful of monkeys, baboons and leopards) and Moses Kotane Hospital which is the closest district hospital to Lerome.

**Figure 25: Health facilities serving Lerome**



Photographs of some of the religious establishments in Lerome including a charismatic church, the Methodist church and the Catholic church (signpost next to the vendor selling roses on the main road).

**Figure 26: Religious institutions**





One indicator of living standards disparity or income inequality is between Bakgatla who live in shacks versus those that live in brick houses. In some cases, shacks are built adjacent to houses in Lerome. The majority of houses in the village are self-built. Another indicator of wealth is those respondents who own livestock (see roaming goats and cattle only the main road in the pictures below).

Figure 27: Income and living standards disparity



Bakgatla tribal lands have a variety of environmental concerns and challenges as evidenced by the photographs below: litter in the veldt; erosion; alien and invasive species (e.g. the jacaranda); water pollution; air pollution (as seen by the smog around the mine shafts in the distance).

**Figure 28: Environmental degradation in Bakgatla tribal lands**





Residents are a variety of people of all ages as seen in the photographs below.

**Figure 29: Lerome residents**





Although some residents of Lerome have formal employment and formal businesses, a number of informal businesses employ and service the needs of residents e.g. the informal car wash, hair salon and take away shop. Although the Bakgatla entrance to Pilanesberg is in close proximity to Lerome, none of the respondents were employed by the Park.

**Figure 30: Occupational wellbeing and what people do all day**



The photos below depict residents socialising including men around a “braai”; people waiting for transport; young men under a tree and an advert for a Heritage festival held in Lerome in September.

**Figure 31: Residents socialising**





The final photos depict the inauguration of a village headman at the local community hall. A number of headmen from surrounding villages attended the event (dressed in traditional skins). Entertainment in the form of dancers and choirs were present and traditional food was prepared by village members.

**Figure 32: Headman's inauguration in community hall**





**Figure 33: Headmen and elders in traditional outfits**



**Figure 34: Traditional dance troupes**



**Figure 35: Preparing food for community event**



## **ADDENDUM C: MINING BENEFITS AND COMPENSATION**

*Haman and Kapelus found in their research into CSI/CSR activities by mining corporations in the area of Rustenburg, that, “companies’ dominant interpretation of CSR has been in terms of so-called corporate social investment: philanthropic initiatives in communities surrounding the mines or via national programmes in education, health, welfare, or small business development. Although these initiatives have represented welcome development contributions, they have had little impact on the root causes of social problems surrounding the mines.” (Bench Marks, 2007).*

*In spite of the negative environmental and socio-economic impacts that may result from mining operations and the associated impact of methods of waste disposal on land use, countries and communities have sometimes welcomed mining because of potential benefits. To counterbalance mining impacts, compensation payments are often offered to the local community in the form of one-off or regular cash payments, or regional development. The presence of a mine can be a vehicle for development in remote regions. (Bench Marks, 2007) The benefits associated with a mining operation can include land rent, job creation and infrastructure development including roads, power production, water distribution, construction of schools, hospitals, etc. Even though mining may have known and perceived detrimental environmental impacts, these benefits can sometimes override local and national perceptions of a mining activities overall contribution to an area’s development. Interviews with Xstrata’s Mr Thabo Moseki demonstrate the point where communities consider job creation as more important than the negative social and environmental impact of mining: “The problem we are having is people refusing to take responsibility to effectively communicate information. Another problem relates to troublesome individuals, who when we schedule a meeting to discuss the environment, for example, goes onto the radio or into the community and tells people that we are coming to discuss employment and that they must come with their CVs to the meeting. Another problem is the level of understanding of issues. When we have a meeting to discuss an environmental impact assessment, for example, they say “no we don’t want to hear about the environment, we want jobs!” Issues relating to the environment are not as important to ordinary people as issues of employment.” (See transcript of interview). (Bench Marks, 2007).*

## ADDENDUM D: SURVEY TOOL: SOUTH AFRICAN HAPPINESS INDEX

2011

Interviewer:

Interview Date (MM/DD/YYYY):

Town or place:

Informed consent #:

1. Are you male or female? (Please circle below)

Sex: Male Female

2. What is your age? \_\_\_\_\_

3. What is your current marital status? (Please tick box)

Never married	
Common law/ living together	
Married	
Divorced	
Separated	
Widowed	

4. Who currently lives in your household with you?

Household Size: Record total # currently in household, including respondent

Enter one of these codes in the "Relationship to Respondent" column

1= Wife/husband

2= Son/daughter

3= Father/mother

4=Sister/brother

5=Grandchild

6=Grandparent

7=Niece/nephew

8=Son-in-law/daughter-in-law

9= Brother-in-law/Sister-in-law

10= Father-in-law/Mother-in-law

11= Other family relative

12= Live in servant

13= Other Non-relative

	Relationship to Respondent (please enter appropriate code)	Age: Enter Age in Years	Sex: 1=Male 2=Female
--	---	----------------------------	----------------------------

Person01/ Respondent			
Person02			
Person03			
Person04			
Person05			
Person06			
Person07			
Person08			
Person09			
Person10			
Person11			
Person12			
Person13			
Person14			

5. What is your current employment status?

Unemployed	
Domestic worker	
Miner	
Farmer	
Trading / shopkeeper /Businessman	
School student/ College student/Trainees/University students	
Civil Servant	
Security worker	
Driver	
Corporate employee	
NGO Staff	
Shebeen Owner	
Others: Specify: .....	

6. Approximately how much cash income did you receive during the past twelve months from each of the following sources? (Note- Income of respondent)

*If no income is received from a source, enter 0. Only leave blank if respondent refuses to answer.*

Sources of Income	Income in Rands
Wages/Salary	



Own business	
Own farm enterprise	
Remittances	
Pensions	
Rental/Real Estate	
Inheritance	
Sale of land or other assets	
Social grants e.g. child grant	
If "Other" please specify.....	
No income	
Don't know	

7. In general, would you say your health is:

Excellent/ Very Good	Good	Fair/Poor
----------------------	------	-----------

8. Do you have any long-term disabilities, illnesses, health problems or mental health problems (lasted or are expected to last 6 months or over)?

Yes	No
-----	----

Now, we need information about your health over the past 30 days.

9. Thinking about your physical health, which includes physical illness and injury, for how many days during the past 30 days was your physical health not good?

Record number of days [Not more than 30] \_\_\_\_\_

10. Have you been to a hospital or clinic within the past 12 months except for family planning?

Yes	No
-----	----

11. What is your height? (Without shoes on)

Height \_Record height in cms. \_\_\_\_\_

12. What is your weight? (Without shoes on)

Weight \_Record weight in kgs. \_\_\_\_\_

13. During the past 12 months, how often have you done any physical activity such as walking, running or playing sports (e.g. soccer) for more than 25minutes at a time?

More than once a week      Once or twice a month      A few times a year      Never

14. How often do you eat the following:

	Never	Once a week	Once a day	Two- five times a day
Fruit and				

Vegetables				
Fatty foods like vetkoek, slap chips, Simba chips or mageu				
Meat or chicken				
Milk, yogurt or cheese				

Now I am going to read you some statements that may be used to describe the food situation for a household. Please tell me whether or not it occurred in the past 12 months?

15. In the past 12 months, did you cut the size of your meal or skip meals because there wasn't enough food or money for food?

Yes	No
-----	----

16. How often did this happen—almost once a month, some months but not every month, or in only one or two months?

Almost once a month	Some months but not every month	Only one or two months
---------------------	---------------------------------	------------------------

17. Substance usage

	During the last 12 months, did you use any of the following:		During the last 12 months, how often did you use any of the following:		How many did you use every day?
Alcohol	Yes	No	Every day	Occasionally	
Cigarettes	Yes	No	Every day	Occasionally	
Tobacco/ Snuff	Yes	No	Every day	Occasionally	
Dagga	Yes	No	Every day	Occasionally	
Other drugs	Yes	No	Every day	Occasionally	

18. Does anyone in your household smoke regularly inside the house?

Yes	No
-----	----

19. During the past four weeks, how often have you felt the following moods/emotions?

	Often	Sometimes	Never
--	-------	-----------	-------

Anger			
Guilt			
Selfishness			
Jealousy			
Pride			
Calmness			
Empathy/Compassion			
Forgiveness			
Contentment			
Generosity			
Disappointment			
Sadness			
Frustration			

Other emotions which are experienced often (please specify).....

.....

.

20. During the last year, would you describe your life as-

Very Stressful	Somewhat Stressful	Not At All Stressful	Don't Know
----------------	--------------------	----------------------	------------

21. What are your main sources of stress/ what makes you stress?

Stress1	
Stress2	
Stress3	
Stress4	
Stress5	

22. Please consider the last four weeks and answer the following questions by ticking the box of one of the four answer options

	<i>More than usual</i>	<i>Same as usual</i>	<i>Less than usual</i>	<i>Much less than usual</i>	<i>Don't know</i>
Been able to concentrate on what you're doing					
Felt you were playing a useful part in things					
Felt capable of making decisions about things					
Felt constantly under strain					



Been able to enjoy your normal day-to-day activities					
Been able to face up to your problems					
Been feeling reasonably happy, all things considered					

	Not at all	No more than usual	Rather more than usual	Much more than usual	Don't know
Lost much sleep over worry					
Felt you couldn't overcome your difficulties					
Been feeling unhappy and depressed					
Been thinking of yourself as a worthless person					
Been losing confidence in yourself					

23. Have you ever seriously thought of committing suicide?

Yes	No
-----	----

24. How often is support available to you when you need it?

	None of the time	Some of the time	Most or all of the time	Don't know
Someone to help you when you are sick				
Someone to help you when you have problems (decision making, financial, emotional, etc.)				

25. How important is it to you to maintain your traditions within your everyday life?

Not Important	Important	Very important	Don't Know
---------------	-----------	----------------	------------

26. How would you rate your own knowledge and understanding of your traditional songs, dances, folktales or crafts?

Good	Average	Poor
------	---------	------

27. Do you take part in local events in your village or community?

Yes	No	No events in my village/community
-----	----	-----------------------------------

28. On an average, how many days do you spend in a year attending social and cultural activities, such as community events or neighbours celebrations?

None	1-5 days	6-12 day	13-20 days	+20 days	Don't Know
------	----------	----------	------------	----------	------------

29. How important is it for you to participate in these community gatherings?

Important	A Little Important	Not Important	Don't know
-----------	--------------------	---------------	------------

30. During the last few years, most people in your community or village have become-

More generous	Stayed the same	Less generous	Don't Know
More compassionate	Stayed the same	Less compassionate	Don't Know
More concerned about material wealth	Stayed the same	Less concerned about material wealth	Don't Know
More selfish	Stayed the same	Less selfish	Don't Know
More honest	Stayed the same	Less honest	Don't Know
More spiritual	Stayed the same	Less spiritual	Don't Know
More tolerant	Stayed the same	Less tolerant	Don't Know

31. During the past 12 months, have you given people unpaid voluntary help?

Yes	No
-----	----

32. What kind of help did you provide and to whom e.g. children, old people etc?

	Yes	No	Who
--	-----	----	-----

Labour contribution towards construction/renovation of religious establishments			
Labour to house construction			
Labour to house repair			
Labour during community events in village			
Labour contribution during times of death in a family			
Labour contribution during planting and harvesting			
Fund-raising			
Teaching			
If "Others" please specify			
Assistance with taking care of people			

Overall, how satisfying has your experience as a volunteer been?

Satisfying	Neither satisfying or dissatisfying	Dissatisfying
------------	-------------------------------------	---------------

33. How would you describe your sense of belonging to your local community? Would you say it is?

Very Strong	Somewhat Strong	Weak	Don't Know
-------------	-----------------	------	------------

34. How much do you trust people in general?

Trust most of them	Trust some of them	Trust a few of them	Trust none of them	Don't Know
--------------------	--------------------	---------------------	--------------------	------------

35. How much you trust your neighbours?

Trust most of them	Trust some of them	Trust a few of them	Trust none of them	Don't Know
--------------------	--------------------	---------------------	--------------------	------------

36. People in this community treat you fairly.

Always	Sometimes	Rarely	Never	Don't Know
--------	-----------	--------	-------	------------

37. Would you say this is a neighbourhood where neighbours help one another?

Always	Sometimes	Rarely	Never	Don't Know
--------	-----------	--------	-------	------------

38. Did you exchange labour with any community members during the past 12 months?

Yes	No
-----	----

39. In the last month, how often did you socialize with your...:

	Few times per week	Few times a month	Once a month	Not in last month	Don't know
Neighbours					
Friends					
Relatives					

(outside of the people you live with)					
---------------------------------------	--	--	--	--	--

40. For the following statements, please tick only one that indicates your level of agreement or disagreement.

	Disagree	Neutral	Agree
The members of your family really care about each other.			
You wish you were not part of your family			
Members of your family argue too much			
You feel like a stranger in your family			
You have enough time to spend with your family			
There is a lot of understanding in your family			
Your family is a real source of comfort to you.			

41. Have you been a victim of crime in the last twelve months?

Yes	No
-----	----

42. If yes, what was the nature of the offense or offenses?

	<i>Record number of offences</i>
Theft	
Robbery	
Vandalism	
Family Violence	
Sexual Assault	
Other Assault or Violence	
Fraud	
Other	

43. Did you see/knew other people being victimized of crime in the last twelve months?

Yes	No
-----	----

44. If yes, what was the nature of the offense or offenses?

	<i>Record number of offences</i>
--	----------------------------------

Theft	
Robbery	
Vandalism	
Family Violence	
Sexual Assault	
Other Assault or Violence	
Fraud	
Other	

45. How safe do you feel when walking alone in your neighbourhood or village after dark from....? Do you feel....?

Always safe	Usually Safe	Rarely safe
-------------	--------------	-------------

46. Did enmity arise in the community during the last twelve months? (fighting)

Yes	No
-----	----

47. If yes, state the reason/reasons:

Reason 1	
Reason 2	
Reason 3	

48. To what extent do you trust the following?

	Trust	Somewhat	Distrust	Don't know
Courts				
Police				
Local Government				
Provincial Government				
National Government				
Media				
Financial institutes				
Chief				
Headman/ headwoman				
Tribal authority				

49. Does your village Headman/ headwoman implement activities according to the decisions of the village?

Yes	No	Don't Know	Not Applicable
-----	----	------------	----------------

50. Are you informed of the decisions taken by the village?

Yes	Sometimes	No	Don't Know
-----	-----------	----	------------

51. Are you informed of the decisions taken by the Bakgatla Tribal Authority?

Yes	Sometimes	No	Don't Know	Not Applicable
-----	-----------	----	------------	----------------

52. In your opinion, how common is corruption amongst South Africans?

Common	Not Common	Don't Know
--------	------------	------------

53. In your opinion, how far do you agree that the following incidences exist?

	Agree	Partly agree	Disagree	Don't know
Misuse of South African's money				
Misuse of subordinate staff				
Misuse of Official Government Transport				
Misuse of Government property and equipment				
Misuse of Government resources like water and electricity				
Favour in employment				
Favour in training				
Favour in promotion				
Favour in transfer				
Favour in award of contracts				
Malpractice in procurement of goods and services				
Delay of payment for corrupt motives				
Allocate budget and implement activities that are not part of Masterplan				
Doing favour or giving money or gifts to buy votes				

54. Do you agree that following are the reasons for corruption amongst the Bakgatla?

	Agree	Partly agree	Disagree	Don't know
Lack of clear rules and laws				
Common practices giving gifts to employers, superiors, and other influential people				
Common practices having sex with employers, superiors, and other influential people				

Weak enforcement of law				
Complicated and lengthy procedures				

55. Do you agree that following are the reasons for corruption amongst South African's?

	Agree	Partly agree	Disagree	Don't know
Lack of clear rules and laws				
Common practices giving gifts to employers, superiors, and other influential people				
Common practices having sex with employers, superiors, and other influential people				
Weak enforcement of law				
Complicated and lengthy procedures				

56. How many Bakgatla members of the community do you think are involved in corruption? Is it:

All	Most	A Few	None	Don't know
-----	------	-------	------	------------

57. How many South Africans do you think are involved in corruption? Is it:

All	Most	A Few	None	Don't know
-----	------	-------	------	------------

58. What is your religion?

None	
Zionist	
Catholic	
Lutheran	
Pentecostal	
Anglican	
Methodist	
Born-again	
If other, please record	

59. How spiritual do you consider yourself to be

Very	Moderately	Not at All
------	------------	------------

60. Do you pray?

Daily	Occasionally	Not at All
-------	--------------	------------

61. Do you go to church/ temples and other places of spiritual significance within your community?

Daily	Occasionally	Not at All
-------	--------------	------------

62. If you are a parent, do you discuss spiritual issues with your children?

Daily	Occasionally	Not at All	Not a Parent
-------	--------------	------------	--------------

63. What is your highest level of education? (Please circle appropriate number below)

Primary school	Grade:		
High school	Grade:		
Vocational college			
Learnership	NQF level:		
University/ technikon	Undergraduate	Honours	Masters
Other:			

64. Have you had any non-formal education e.g. apprentice?

Yes	No
-----	----

65. Which of the following languages can you read and write?

	Speak	Read	Write
Setswana			
Afrikaans			
English			
IsiNdebele			
IsiXhosa			
IsiZulu			
Sesotho sa Leboa			
Sesotho			
siSwati			
Tshivenda			
Xitsonga			
None			
Other			

66. We would like to know how you spent your time yesterday. Beginning with when you woke up, can you please recount various activities you performed and how long they took? \*Feelings include:

1=impatient for it to end

2=happy

3=frustrated/annoyed

4=depressed

5=competent/capable



6=hassled/pushed around

7=warm/friendly

8=angry/hostile

9=worried/anxious

10=Enjoying myself

11=tired

[illegible]


67. Within your community, do you consider your family to be:

Wealthier than most families	
About the same as most families	
Poorer than most families	
Don't Know	

68. How has your family's financial position changed over the past few years, compared to other families in your community?

Financial position has improved more than most families	
Financial position has changed about the same as most families	
Financial position has improved less than most families	
Don't Know	

69. In the next two years, do you think your family's financial situation will get better, worse or stay the same?

Get Better	Stay The Same	Get Worse	Don't Know
------------	---------------	-----------	------------

70. How well does your total household income meet your family's everyday needs for food, shelter and clothing?

Not enough	Just enough	More than enough
------------	-------------	------------------

71. If you or someone in your household had to make an unexpected payment of R5,000 today, would you-

	Yes	No
Use savings		
Borrow from relative		
Borrow from a friend		
Borrow from a bank		
Borrow from other informal lender/ mashonisa		
Sell an asset		
Other		

72. In the past 12 months, did any of the following happen to your family?

	Yes	No
Bought second hand clothes instead of new ones to keep costs down.		
Continued wearing clothes and shoes that were worn out because you couldn't		

afford replacements.		
Had difficulty in contributing to community festivals/ events		
Could not send children to school due to costs		
Could not repay loans or mortgages on time.		
Had difficulty providing financial assistance to parents and extended family members.		
Postponed urgent repairs and maintenance of your household.		
Sold equipment, land or other assets to raise cash for basic expenses.		
Other-		

73. Are you comfortable with your current level of household debt?

Yes	No
-----	----

74. Is the house in which you live, rented or owned?

Rented	Owned
--------	-------

75. Which of the following assets do you own? During the past 12 months, have any of the assets increased, decreased or stayed the same?

Increased      Stayed the Same      Decreased      Not Applicable

		Yes	No	Increased	Stayed same	Decreased	Not applicable
Land or houses							
Equipment	Car or bakkie						
	Farming equipment						
	Wheel barrow						
	Radio						
	TV						
	Furniture						
	Cellphone						
	Property						
	Cash in the bank						
	Cows						
	Bulls						
	Goats						
	Sheep						

	Horses						
	Donkeys						
	Mules						
	Chickens						
	Pigs						
Other	Specify						

76. Do you know the names of species of plants and animals around your local surrounding?

Yes	No
-----	----

77. Do you support environmental conservation policies of the government?

Yes	No
-----	----

78. Do you know what climate change is?

Yes	Know a bit	No
-----	------------	----

79. How serious a problem do you consider the issues of climate change or global warming to be? Is it:

Very serious problem	Somewhat serious problem
Not a serious problem at all	Don't Know

80. To what extent, are you concerned about climate change?

Very much	A lot	A little	Not at all	Don't Know
-----------	-------	----------	------------	------------

81. Has your household waste production increased compared to the previous year?

Yes	No	Don't Know
-----	----	------------

82. During the past 12 months, what kind of waste did your household produce?

Ecologically friendly (vegetable waste and others that decompose easily)	
Ecologically unfriendly (metals, plastics, etc. that does not decompose easily)	
Both	

83. How often do you sort glass or tins or plastic and so on for reuse?

Always	Sometimes	Never
--------	-----------	-------

84. How do you dispose your household waste?

Composting and burning	
Municipal garbage pick-up	
Dump in rivers/streams	
Dump on open land or veld	

Others, please specify.....	
-----------------------------	--

85. Are the following environmental issues of concern in your area?

	Yes	No	Don't know	Sometimes
Pollution of rivers and streams				
Air pollution				
Absence of proper waste disposal sites				
Decreasing wildlife species				
Drought				
Soil erosion				
Flood				
Erratic weather pattern				

86. To what extent do you feel that the government is protecting environment for future generations?

Enough	Not enough	Don't Know
--------	------------	------------

87. How would you rate the quality of your drinking water in terms of the following?

Excellent	Good	Poor	Don't Know
-----------	------	------	------------

88. Have you witnessed increase or decrease in water borne diseases in your area?

Excellent	Good	Poor	Don't Know
-----------	------	------	------------

89. Do you notice any change in the level of water in the streams, rivers or dams nearby your area over the last 3 years?

Increased	Decreased	Stayed the same	Don't Know
-----------	-----------	-----------------	------------

90. How would you rate the overall quality of air in your area?

Excellent	Good	Poor	Don't Know
-----------	------	------	------------

91. Have you witnessed increase or decrease in diseases related to bad air quality in your area?

Increased	Decreased	Don't Know
-----------	-----------	------------

92. Do you agree or disagree with the following statements?

	Agree	Disagree	Don't know
Besides human beings, nature is also a place for wild animals, snakes and birds.			
Living beings have to depend on nonliving beings in order to survive.			

93. State whether you agree or disagree with the following?

	Agree	Disagree	Don't know
There should be tougher anti-pollution laws.			
Those businesses that do not meet environmental regulations should be closed down			
Government should impose heavy taxes for those who import environmentally damaging goods.			
The government should strictly enforce a ban on plastic bags and bottles.			
Government should be tougher on pollution			

94. What are the six or seven things that you consider to be most important in leading to a happy and contented life? Record answer below


95. On a scale of one to ten, I consider myself

Not a very happy person (1) or a Very Happy Person (10)

1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	----

96. How would you rate the quality of your life?

Very poor	Poor	Neither poor nor good	Good	Very good
-----------	------	-----------------------	------	-----------

97. How much do you enjoy life?

Not at all	A little	Quite a lot	An extreme amount
------------	----------	-------------	-------------------

98. How satisfied are you with the following aspects of your life?

	Satisfied	Fairly satisfied	Not very satisfied	Dissatisfied	Don't know
Your health					

The security of your finances/livelihood					
The major occupations in your daily life (could be your job if formally employed, farm work, housework)					
Your knowledge and general education					
The environment in which you live					
Your relationships with other people and the community					
Your spirituality					
Your emotions and mental health					

99. Please indicate the importance that you assign to each of the following principles in life on a scale of 1 to 10 with 1 being not important at all and 10 being extremely important.

	1	2	3	4	5	6	7	8	9	10
Family life										
Friendship										
Generosity										
Spiritual faith										
Compassion										
Self-development										
Reciprocity										
Responsibility										
Freedom										
Material wealth										
Financial security										
Career success										
Pleasure										

100. On the same scale of 1 to 10, please indicate the importance you think other People living in South Africa assign to the same principles in life:

	1	2	3	4	5	6	7	8	9	10
Family life										

Friendship										
Generosity										
Spiritual faith										
Compassion										
Self-development										
Reciprocity										
Responsibility										
Freedom										
Material wealth										
Financial security										
Career success										
Pleasure										